

APPENDIX D FISH AND WILDLIFE

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CONSERVATION ACTIONS FOR WESTSLOPE CUTTHROAT TROUT

BACKGROUND

The BLM entered into a Memorandum of Understanding (MOU) and Conservation Agreement (Agreement) with a number of agencies and private organizations in May of 1999. The purpose of the MOU and Agreement is to expedite implementation of conservation measures for westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) in Montana through a collaborative and cooperative effort among resource agencies, conservation and industry organizations, resource users, and private land owners. The goals, objectives and conservation actions described below will be incorporated into activities under the jurisdiction of BLM.

CONSERVATION AND RESTORATION GOAL OVERVIEW

The management goal for westslope cutthroat trout in Montana is to ensure the long-term self-sustaining persistence of the subspecies within each of the five major river drainages they historically inhabited in Montana (Clark Fork, Kootenai, Flathead, upper Missouri, and Saskatchewan), and to maintain the genetic diversity and life history strategies represented by the remaining local populations.

The following objectives are identified in the MOU and Conservation Agreement:

- Protect all genetically pure Westslope Cutthroat Trout populations;
- Protect partially hybridized (>90% pure) populations;
- Ensure the long-term persistence of the WCT within their native range;
- Provide technical information, administrative assistance, and financial resources to assure compliance with the listed objectives and encourage conservation of WCT; and
- Design and implement an effective monitoring program by the year 2002 to document persistence and demonstrate progress towards the management goal.

CONSERVATION ACTIONS

Restoration and recovery actions that address threats to WCT can be grouped into the general categories of fisheries management, habitat management, genetics/population management, and administration, evaluation and information management. In some instances, actions to achieve long-term beneficial effects may cause short-term degradation such as

increased sediment during stream channel restoration projects. However, long-term benefits ultimately will offset any short-term impacts.

Since BLM manages habitat rather than species or populations, conservation actions most applicable to BLM management identified in the MOU and Conservation Agreement come under the heading of habitat management recommendations. These include:

- Maintain and protect WCT habitat from degradation by achieving compliance with existing habitat protection laws, policies, and guidelines.
- Restore physical integrity of degraded habitat where logistically and technically feasible.
- Achieve compliance with water quality standards and develop TMDLs for water quality impaired streams (streams listed on the DEQ 303(d) impaired water bodies list) that are priority WCT habitat.
- Restore and maintain hydrologic conditions (flow, timing, duration) to mimic natural processes where necessary to meet Agreement objectives.
- Operate dams to minimize impacts where necessary to meet Agreement objectives.
- Identify, monitor, and maintain existing barriers to keep introduced species at bay; install new barriers where necessary to prevent invasion of introduced species.
- Identify and document fishless streams/reaches above natural barriers as potential introduction/expansion locations.
- Determine effectiveness of existing habitat protection regulations and BMPs.

SAGE GROUSE MANAGEMENT

INTRODUCTION

Conservation measures delineated in the Montana Sage Grouse Conservation Strategy developed by a joint working group will be considered and used as the basis for conserving sage grouse populations through implementation of the Dillon RMP. Conservation measures would guide habitat management recommendations during watershed assessments and project level analysis under Alternative A, B and D. The measures would be applied as standards under Alternative C, along with the Western Association of Fish and Wildlife Agencies (WAFWA) guidelines which are summarized in this appendix. Only habitat-related conservation measures from the plan and guidelines are utilized in RMP alternatives. The Montana Conservation Strategy is in conformance with the draft National BLM sage grouse habitat conservation strategy.

RISKS TO SAGE GROUSE AND THEIR HABITAT

The Montana Sage Grouse Working Group identified risks to sage grouse and their habitat during the conservation planning effort. Conservation actions proposed in the strategy would address the 12 major issues presented in the plan and reduce the identified risks. The conservation actions are related to:

- *Fire Management*
- *Grazing Management*
- *Harvest Management*
- *Noxious Weed Management*
- *Managing Other Wildlife in Sage Grouse Habitats*
- *Mining and Energy Development*
- *Outreach and Education*
- *Power Lines and Generation Facilities*
- *Predation*
- *Recreational Disturbance*
- *Roads and Motorized Vehicles*
- *Vegetation*

CONSERVATION ACTIONS

The following conservation actions delineated in the Montana Sage Grouse Conservation Strategy by issue would be used in the watershed assessment process and in project level analysis for actions on BLM lands.

Fire Management

Issue: Reduction of sagebrush by prescribed fire.

1. Sites should not be burned unless:
 - a) biological and physical limitations of the site and impact on sage grouse are identified and considered,
 - b) management objectives for the site, including those for wildlife, are clearly defined,
 - c) potential for weed invasion and successional trends are well understood, and
 - d) capability exists to manage the post-burn site properly, including a funded monitoring schedule, to achieve a healthy sagebrush community.
2. Develop local or regional guidelines, such as the Beaverhead-Deer Lodge Forest/FWP guidelines in the intermountain valleys, or consider the following guidelines if fire is used as a tool elsewhere:
 - a) analyze cumulative effects of sagebrush treatment by considering ecological units, evaluate the degree of fragmentation, and maintain a good representation of mature sagebrush,
 - b) predict effects for the length of time necessary for sagebrush to return to desired condition for determine treatment types and intervals,

- c) identify suitable patch size based on site-specific characteristics of the natural community and treat patches in a mosaic pattern that provides sagebrush cover for snow capture, hiding cover, and a seed source,
 - d) use available literature to research the effects of fire on sagebrush communities,
 - e) use caution in reducing sagebrush cover in and following drought periods,
 - f) work cooperatively with public agencies, academia, and private landowners to establish conservation objectives for the project area, and
 - g) map all burns within one year of treatment, monitor vegetative response, and develop a GIS layer of burn history.
3. Develop treatments to improve habitats over the long term if sagebrush stands do not meet objectives for sage grouse, such as confining treatments to small patches.
4. Consider mechanical treatment as the primary method and prescribed fire as a secondary method to remove conifers that encroach on sage grouse habitat, except where forested habitat is limited.
5. Avoid treatments to sage grouse habitat in areas that are susceptible to invasion by cheatgrass or other invasive plant species. Treatment will be accompanied by restoration, and reseeded if necessary, to re-establish native vegetation.
6. Protect sagebrush along riparian zones, meadows, lakebeds, and farmlands that include important sage grouse habitat:
 - a) winter habitat,
 - b) breeding habitat, and
 - c) nesting habitat.
7. Wash vehicles and heavy equipment for fires prior to arrival at a new location to avoid introduction for noxious weeds.

Issue: Reduction of sagebrush by wildfire.

1. Schedule annual coordination meetings – with appropriate resource staff including fire specialists, wildlife biologists, and range ecologists – to incorporate new sage grouse habitat and other wildlife habitat information needed to set wildfire suppression priorities related to resources. Distribute updates to fire dispatchers for initial attack planning.
2. Identify the location of known sage grouse habitat and other wildlife habitats of concern, such as latitude and longitude with a polygon and radius, to avoid disturbance or degradation by temporary facilities, such as fire camps, staging areas, and helibases.
3. Incorporate known sage grouse habitat information into each Wildfire Situation Analysis to help determine appropriate suppression plans and prioritize multiple fires.
4. Retain unburned areas of sage grouse habitat, such as interior islands and patches between roads and fire pe-

rimeter, unless compelling safety, resource protection, or control objectives are at risk.

Issue: Rehabilitation and restoration of sagebrush grasslands.

1. Assure that long-term wildfire rehabilitation objectives are consistent with the desired natural plant community.
2. Re-vegetate burned sites in sage grouse habitat within one year unless natural recovery of the native plant community is expected. Areas disturbed by heavy equipment will be given priority consideration.
3. Emphasize native plant species adapted to the site that are readily available and economically and biologically feasible.
4. Monitor the site and treat for noxious weeds.
5. Allow a minimum of two growing seasons of rest from grazing by domestic livestock unless there are specific restoration objectives using livestock.

Issue: Proactive treatments that could reduce the risk of loss of habitat critical to sage grouse.

1. Develop criteria for managing fuels and other risks to sage grouse habitat.
2. Identify critical sage grouse habitats and prioritize on the basis of risk of loss to wildfire.
3. Develop appropriate actions on a site by site basis, such as using existing roads as fire breaks.

Grazing Management

Issue: Conflicting priorities for land uses, species, and habitats.

1. Use scientific data and historic information to establish baseline information when evaluating soil conditions and ecological processes and when monitoring seasonal sage grouse habitats.
2. Set specific habitat objectives and implement appropriate grazing management to achieve those objectives and maintain or improve vegetation condition and trends.
3. Offer private landowners incentives when and where appropriated to achieve sage grouse objectives.

Issue: Some sagebrush communities may have been significantly altered by past grazing management practices.

1. Implement appropriate grazing management strategies and range management practices where soil conditions and ecological processes will support sage grouse and desired commodities and societal values.
2. Establish suitable goals for sagebrush communities that have deteriorated to such an extent that livestock management alone may not contribute to habitat objectives.

3. Offer private landowners incentives when and where appropriate to achieve sage grouse objectives.

Issue: Drought may result in the degradation of native plant communities, and reduces forage production and sage grouse habitat.

1. Livestock managers should have drought management strategies or plans, e.g. water facilities; forage sources formulated for implementation during periods of drought.
2. Consider effects of livestock and wildlife distribution on sage grouse prior to developing additional water sources.
3. Offer private landowners incentives when and where appropriate to achieve sage grouse objectives.

Issue: Improper grazing or lack of grazing can change the composition and/or structure of the native plant community and thereby reduce or eliminate food and cover for sage grouse.

1. Monitor the response of forbs (kinds, vigor, and production), and the compositional diversity of native species with respect to livestock grazing, evaluate the data, and make necessary adjustments.
2. Identify reasons for lack of grass and forb cover in sagebrush communities and recommend practices to increase the native herbaceous understory.
3. Identify critical sage grouse areas, and adjust grazing to minimize conflict among the production of commodities and protection of societal values.
4. use monitoring methods that are best suited to the type of grazing management being incorporated at a site.
5. Adjust stocking levels (up or down) within the carrying capacity of the pasture or range. Adjustments should be based on monitoring program evaluating plant and soil response with respect to actual livestock use, weather, wildlife use, insects, and other environmental factors.

Issue: Riparian areas (wet meadows, seeps, streams) are important resources for sage grouse and livestock.

1. Design and implement livestock grazing management practices (riparian pastures, seasonal grazing, development of off-stream water facilities, etc.) to achieve riparian management objectives.
2. Modify or adapt pipelines and natural springs, where practical, to create small wet meadows as brood habitat.
3. ensure the sustainability of desired soil conditions and ecological processes within upland plant communities following implementation of strategies to protect riparian areas. This can be achieved by:
 - protecting natural wet meadows and springs from over-use while developing water for livestock, and

- plan the location, design, and construction of new fences to minimize impacts on sage grouse.

Issue: Potential for sage grouse to be disturbed or displaced by concentrations of livestock near leks or winter habitat.

1. Discourage concentration of livestock on leks or other key sage grouse habitats.
 - Avoid placement of salt or mineral supplements near leks during the breeding season (March-June), and
 - Avoid supplemental winter feeding of livestock, where practical, on sage grouse winter habitat and around leks.

Issue: Sage grouse seasonal ranges often encompass private, tribal, state, and federal land. Habitat values across the respective ownership are important to sage grouse.

1. Encourage land management practices that provide for maintaining or enhancing sage grouse habitat on private, tribal, state, and federal land.
2. Encourage the coordination of management activities on both properties to provide yearlong benefits to sage grouse. This may require reasonable compromise in establishing management practices to achieve specific goals.
3. Offer private landowners incentives when and where appropriate to achieve sage grouse objectives.

Issue: Existing fences near breeding, brood-rearing, or winter habitats can increase the risk of collision mortalities and/or predation on sage grouse by hawks, eagles, and ravens by providing perches.

1. If portions of existing fences are found to pose a significant threat to sage grouse as strike sties or raptor perches, mitigate through moving or modifying posts, implementation of predator control programs, etc. Actions may include increasing the visibility of the fences by flagging or by designing “take-down” fences.
2. Offer private landowners incentives when and where appropriate to achieve sage grouse objectives.

Issue: Pesticides and herbicides may adversely impact the kinds and number of foods available in the form of insects and forbs and can directly affect chick survival.

1. Evaluate ecological consequences of using pesticides to control grasshoppers or other insects.
2. Evaluate ecological consequences of broadcast herbicide use on forbs and other important sage grouse foods.
3. Minimize use of pesticides and herbicides within 1 mile of known grouse nests, leks, or brood-rearing areas.
4. Develop educational materials detailing the effects of pesticides and herbicides that can be used to evaluate their effects on sage grouse.

Harvest Management

Issue: There is a single harvest structure for the entire state, but regionally sage grouse may have different population characteristics and status.

1. Divide sage grouse habitat into ecoregions based on clearly defined differences in ecological and/or population characteristics, which would allow for different season structures.
2. Develop an adaptive harvest management strategy including closed, conservative, and standard season structures. Clearly define “triggers” for each season structure based on population trend.
3. Establish sage grouse seasons on an annual basis using the current year’s lek data and other appropriate survey data. This would include the development of a statistically reliable trend monitoring protocol for inventorying lek attendance of male sage grouse.

Issue: There strongly opposed viewpoints on the influences of hunting on sage grouse populations.

1. Develop graduate level studies to evaluate the influence of hunting on sage grouse in Montana and what would constitute a maximum harvest rate.
2. Establish standardized wing collection protocol to evaluate the influence of environmental conditions on sage grouse productivity and population trends.
3. Identify small populations of sage grouse that are genetically isolated from other populations that could be at risk of overharvest.
4. Expand public information efforts designed to increase public awareness of the role of sage grouse hunting.

Managing Other Wildlife in Sage Grouse Habitats

Issue: High concentrations of wild herbivores in localized areas may reduce habitat effectiveness for sage grouse.

1. Identify and map key sage grouse habitats where other wild herbivores are having significant impacts.
2. Establish an inventory and vegetative monitoring schedule to quantitatively determine the extent of the effects in key areas.
3. Determine seasons of expected use and assess the potential impact to sage grouse habitat.
4. Develop plans that keep ungulate population levels consistent with the sites capability to support them.

Issue: Wetlands and other riparian habitats may be vulnerable to overuse by wild herbivores on some sites. This can sometimes be exacerbated seasonally, during droughts, and/or by other land use practices.

1. Identify levels of use by wild herbivores in affected riparian areas.
2. Identify other land use practices occurring in riparian habitats.
3. Assess current management practices in respect to findings.
4. Determine whether management changes are needed.
5. Have drought management plans in place to allow for the rapid implementation of alternate management strategies.
3. Restrict maintenance and related activities in sage grouse breeding/nesting complexes – March 15 – June 15 – between the hours of 4:00 – 8:00 a.m. and 7:00 – 10:00 p.m.
4. Allow no surface use activities within crucial sage grouse wintering areas during December 1 – March 15.
5. Remove structures and associated infrastructure when project is completed.

Issue: Increased roads, pipelines, and power lines can fragment sagebrush habitats.

Mining and Energy Development

Issue: Energy development may adversely affect sage grouse.

1. Work cooperatively – agencies, utilities, and landowners – to identify and map important seasonal ranges for sage grouse.
2. Complete a broad scale assessment to identify important areas that require additional protection or conservation during land use planning and leasing of energy reserves.
3. Prioritize areas relative to their need for protection – ranging from complete protection to availability for moderate to high levels of energy development.
4. Encourage development in incremental stages to stagger disturbance (federal leases range from 3-10 years); design schedules that include long-term strategies to localize disturbance and recovery within established zones over a staggered time frame.
5. Provide technical assistance to private landowners who lease privately owned fee minerals.
6. Use off-site mitigation, such as the creation of sagebrush habitat, or purchase conservation easements with industry dollars to offset habitat losses.
7. Remove facilities and infrastructure when use is completed.
8. Enhance our understanding of the effects of energy development through:
 - a) pre-activity inventory,
 - b) monitoring over the life of the development, and
 - c) annual evaluations.
1. Develop a comprehensive infrastructure plan prior to energy development activities to minimize road densities.
2. Avoid locating roads and power lines in crucial sage grouse breeding, nesting, and wintering areas.
3. See conservation actions for siting and constructing power lines.
4. Use minimal surface disturbance to install roads and pipelines and reclaim site of abandoned wells to natural communities.

Issue: Energy-related facilities located within 2 miles of a sage grouse lek can degrade habitat quality within existing leases.

1. Locate storage facilities, generators, and holding tanks outside the line of sight and sound of important breeding habitat.
2. Minimize ground disturbance in sagebrush stands with documented use by sage grouse:
 - a) breeding habitat – the lek and associated stands of sagebrush,
 - b) nesting habitat – stands of sagebrush within 2 miles of a lek, and
 - c) wintering habitat – sagebrush stands with documented winter use by sage grouse with portions that would remain above the snow even during years of deep-snow conditions.
3. Concentrate energy-related facilities when practicable.

Issue: Energy-related activities can cause invasion of noxious weeds and other non-native plants.

Issue: Increased human disturbance.

1. Allow no surface occupancy within 0.25 miles of an active lek. Use the best available information for siting structures near important breeding, brood-rearing, and winter habitat considering the following:
 - a) size of the structure(s),
 - b) life of the operation,
 - c) extent to which impacts would be minimized by topography, and
 - d) disturbance by noise and maintenance.
2. Allow no surface use in nesting habitat within 2 miles of an active lek during a period of breeding and nesting – March 15 – June 15.
1. See conservation actions related to preventing the spread of weeds and controlling infestations of noxious weeds.
2. Engage industry as a partner to develop and establish new sources of seed of native plant species for restoration of sites disturbed by development.

Issue: Noise can disrupt breeding rituals and cause abandonment of leks.

1. Restrict noise levels from production facilities to 49 decibels (10 dba above background noise at the lek).
2. Restrict use of any heavy equipment that exceeds 49

decibels within 2 miles of a lek to hours form 8:00 a.m. to 7:00 p.m. and 10:00 p.m. to 4:00 a.m. March 15 to June 15.

Issue: Water discharge and impoundments can degrade or inundate breeding, nesting, and winter habitat.

1. Design impoundments and manage discharge so as not to degrade or inundate leks, nesting sites, and wintering sites.
2. Protect natural springs from any source of disturbance or degradation from energy-related activities.

Issue: Siting requirements need to be re-examined as technological advances make development more compatible with sage grouse needs.

1. Provide for long-term monitoring of siting requirements to examine effects of current and future development on sage grouse.
2. Set up a schedule for reviewing and revising siting and use criteria with industry.

Noxious Weed Management

Issue: Current information on existing weed infestations is insufficient for successful weed management.

- Inventory and map existing noxious weed populations within and adjacent to occupied sage grouse habitat or suspected range.

Issue: Appropriate weed management can't be performed without habitat-specific information.

- Develop habitat-specific weed management plans for known sage grouse ranges, using the inventory and map information developed in the action described above.

Issue: Weed infestations result in loss of native grass, forb, and sagebrush abundance and diversity.

- Promote measures that prevent the introduction and spread of weed seeds and other reproducing plant parts.

Issue: Noxious weeds spread quickly and without regard to ownership or management boundaries. Without immediate treatment, noxious weeds become a problem to all surrounding landowners. Effective weed management cannot occur in isolation or to the exclusion of any land managers within an area.

1. Develop and implement management techniques that minimized the risk of infestation.
2. Use weed seed-free livestock forage and mulch.
3. Thoroughly clean personal clothing, pets, all vehicles

and machinery before moving into non-infested areas.

4. Where feasible, isolate livestock from known infestations and avoid vehicle movement through infested areas.
5. Delay movement of livestock for a time period necessary to prevent viable weed seeds from passing through animals' digestive tracts or remaining physically attached when moving from infested to non-infested areas.
6. Use weed-free seed for re-establishment of vegetation.
7. Eliminate unnecessary soil disturbance and vehicle access/movement into occupied sage grouse habitat. Limit vehicle use to established roads only.
8. Regularly monitor access points and roads for weed establishment.

Issue: Cooperative integrated weed management efforts are essential in order to have successful sage grouse habitat.

1. Develop partnerships with regional public and private land management units. Solicit involvement of local weed management specialists, private landowners, wildlife biologists, and range ecologists to share knowledge and responsibilities on noxious weed issues.
2. Establish goals and set priorities that encompass the needs of both livestock and wildlife managers so all parties are working under a similar plan.
3. Provide training to appropriate staff on the proper selection and use of herbicides, including effects that climatic conditions and soils types have on applications of herbicides.
4. Maintain proper operating herbicide application equipment as well as proper herbicide application records, according to Montana pesticide laws.
5. Conduct monitoring and develop follow-up procedures for treated areas.
6. Participate in integrated weed management training conducted by state and federal agencies, local experiment stations, and local (county) weed districts.
7. Educate all field personnel on weed identification, manner in which weeds spread, and methods of treating weed infestations.

Issue: It is important to maintain viable sagebrush habitat and populations of sage grouse while eradicating infestations of noxious weeds.

1. Employ integrated weed management treatment methods such as a combination of biological and cultural, such as grazing, mowing, or seeding treatments in conjunction with herbicides to manage weeds in sage grouse habitat.
2. Use the most selective herbicides where chemical treatment is appropriate, to minimize loss of non-target plant species.
3. Restore plant communities with desired species adapted

to the site, using proven management techniques where biologically feasible. A restoration program may be necessary if conditions prevent natural plant species.

Issue: New weed infestations are often undetected.

- Establish a monitoring protocol to detect new infestations.

Issue: Weed management may not be identified budget item in sage grouse management plans.

- Weed management costs should be an identified budget item in sage grouse management plans. Money should be dedicated for monitoring and education as well as direct treatment expenses.

Issue: Funding and/or human resources may not be available when new infestations are discovered.

- Establish partnerships or formal agreements with local (county) weed districts if appropriate to utilize their equipment and/or personnel.

Outreach , Education, and Implementation

Issue: The general public and agency staffs have not been exposed to current information on ecological needs and methods for conserving sage grouse and sagebrush habitats. Materials are needed to present this information.

1. Develop educational materials (brochure, Power Point presentation, camera-ready ads, press releases, public service announcements, event invitations and surveys, websites, newsletters, and research information).
2. Present materials in a series of community meetings that bring statewide technical groups participants and regional agency staff together with local people.
3. consider Resource Advisory Committees and other regional and local opportunities for education and outreach.
4. Encourage public participation in censusing leks and other volunteer projects, including the general public on public lands and private landowners on their own properties.

Issue: The general public and agency staff may not initially understand, and therefore support, the plan.

1. Distribute the plan via hard copy and website.
2. Develop and implement a communications plan that identifies the audience and the message.
3. Prepare an executive summary of the plan.
4. Review and reconcile public concerns.

Issue: Implementing a statewide plan in light of diverse geographical, cultural, and socio-economic challenges poses a challenge.

1. Implement the local work group concept.
2. Coordinate efforts among work groups.

Issue: Educational materials are needed for the sage grouse conservation effort in Montana.

1. Develop a list of incentive programs presently offered that could be used to prevent the loss of sage grouse habitat.
2. Develop and distribute information on best management practices and is and agencies to designate a sage grouse contact person in interface with county planning authorities.
3. Request counties and agencies to designate a sage grouse contact person to interface with county planning authorities.
4. Provide sage grouse habitat maps and recommendations to county planners, public land agencies, and other interest groups and land managers.
5. Encourage county governments to offer incentives to developers who protect and enhance sage grouse habitat.

Powerlines and Generation Facilities

Issue: Existing power lines near a lek, brood-rearing habitat, or winter habitat increases the risk of predation on sage grouse by raptors.

1. Document the segment(s) of line causing problems.
2. Determine by cooperative action- agencies, utilities, and landowners- whether or not modification of poles to limit perching will prevent electrocution of raptors and decrease predation on sage grouse.
3. Emphasize the following if perch prevention modifications do not work to protect sage grouse and sagebrush habitat:
 - a) reroute the line using distance, topography, or vegetative cover; or
 - b) bury the line.
4. Explore opportunities for technical assistance and funding.
5. Remove power line when use is completed.

Issue: New power lines proposed in areas that provide sage grouse habitat can pose threats to sage grouse.

1. Minimize the number of new lines in sage grouse habitat.
2. Site new lines in existing corridors wherever practicable.

3. Encourage the use of off-grid systems such as solar, natural gas micro-turbines, and wind power where feasible in sage grouse habitats.
4. Use the best available information for siting power lines on important breeding, brood-rearing, and winter habitat in an appropriate vicinity of the proposed line.
5. Develop a route – with agencies, utilities, and landowners cooperating – that uses topography, vegetative cover, site distance, etc. to effectively protect identified sage grouse habitat in a cost efficient manner.
6. Restrict timing for construction to prevent disturbance during critical periods:
 - a) breeding – March 15 – May 15
 - b) winter – December 1 – March 15.
7. Take appropriate measures to prevent introduction or dispersal of noxious weeds during construction and planned maintenance.
8. Remove power line when use is completed.

Issue: Existing power line is causing consistent or significant collision mortality on sage grouse.

1. Document the segment(s) of line causing consistent or biologically significant mortality- with agencies, utilities, and landowners cooperating in the effort.
2. Initiate collision prevention measures using guidelines (Avian Power Line Action Committee 1994) on identified segments. Measures are subject to restriction or modification for wind and ice loading or other engineering concerns, or updated collision prevention information.
3. Remove power lines that traverse important sage grouse habitats when facilities being serviced are no longer in use or when projects are completed.

Issue: Fossil fuel generation may impact sage grouse and sage grouse habitat.

1. Use the best available information to :
 - a) identify important sage grouse breeding, brood-rearing, and winter habitat in an appropriate vicinity of a proposed facility and associated infrastructure; and
 - b) site fossil fuel generation facilities and associated infrastructure – with developers, agencies, utilities, and landowners cooperating – using topography, vegetative cover, site distance, etc., to effectively protect identified sage grouse habitat.

Issue: Wind generation may impact sage grouse and sage grouse habitat.

1. Consult with USFWS Ecological Services for site selection evaluation information.
2. Use the best available information to:
 - a) identify important sage grouse breeding, brood-

- rearing , and winter habitat in an appropriate vicinity of a proposed facility and associated infrastructure; and
- b) site wind generation facilities – with agencies, utilities, and landowners cooperating – using topography, vegetative cover, site distance, etc. to effectively protect identified sage grouse habitat.
3. Identify and avoid both local (daily) and seasonal migration routes.
4. Restrict timing of construction to minimize disturbance during critical periods:
 - a) breeding – March 15 – May 15
 - b) winter – December 1 – March 15
5. Take appropriate measures to prevent introduction or dispersal of noxious weeds during construction, maintenance, and operation as required by federal and state laws.
6. Develop offsite mitigation strategies in situations in which fragmentation or degradation of sage grouse habitat is unavoidable.

Predation

Issue: Predator numbers and species composition have changed, and the predator-prey relationship for sage grouse in Montana needs further investigation.

1. Initiate studies to better understand sage grouse mortality rates, the factors that influence these rates and the effectiveness of management actions to change them.
2. Assess population status and trends of important predator species (both native and invasive).
3. Expand public information efforts designed to increase public awareness on the role of habitat predation, and weather on sage grouse population trends.

Issue: Habitat fragmentation and poor quality habitat may be affecting mortality rates by allowing increased predation.

1. Initiate studies to determine the relationships between predation, habitat fragmentation, and habitat condition.
2. Implement actions to improve the structure and composition of sagebrush communities to meet desired conditions for sage grouse seasonal habitats.
3. Maintain and restore sagebrush communities where appropriate for sage grouse populations.
4. Protect existing habitats through conservation easements, incentives, or other practices such as long-term leases.

Issue: Man-caused alterations on the landscape have modified conditions and may directly facilitate increased predation.

1. Reduce man-made perches and conifer encroachment in sage grouse breeding, nesting, and wintering habitats.
 - a) Placement of power poles should follow prescription detailed in the discussion transmission lines.
 - b) Placement of fences should follow prescriptions detailed in the discussion of grazing management, and
 - c) Treatment of conifer encroachment should be implemented in ways to minimize loss of sagebrush habitats.
2. Reduce the availability of predator ‘subsides’ such as human-made den sites (nonfunctioning culverts, old foundations, wood piles) and supplemental food sources (garbage dumps, spilled grains, etc.) that contribute to increased predator numbers.
3. If predations is shown to be depressing sage grouse populations, consider predator management actions specific to the predator species, site, and situation.
4. Consider expanded opportunities to take non-protected, invasive species where appropriate.

Recreational Disturbance of Sage Grouse

Issue: Citizens should be able to view and photograph sage grouse breeding displays. However, viewing may disturb breeding activities, displace leks, and reduce reproductive success.

1. Agencies should document leks where recreational viewing is occurring.
2. Working together, the agency(ies) and interested public should determine whether or not management of viewing is needed to reduce disturbance of leks.
3. Educational materials should be developed and provided to the public indicating the effects of concentrated recreational activities and the importance of seasonal ranges to sage grouse.

Issue: Management of lek viewing may be necessary.

1. Establish viewing guidelines, i.e., distance, timing, approach methods, signage, parking areas, and area closures.
2. Consider sage grouse needs when developing roads and OHV management plans.
3. Develop and provide educational materials to the public describing effects of concentrated recreational activities and the importance of seasonal ranges to sage grouse.
4. Encourage recreationists to avoid continuous or concentrated use within 1.5 miles of leks from March 15 to May 15.
5. Issue special use permits for certain activities with distance and timing restrictions to maintain the integrity of breeding habitat.

6. Discourage concentration of hunters on critical seasonal habitats, such as during late big game seasons, when sage grouse are present.

Roads and Motorized Vehicles

Issue: Roads may increase sage grouse mortality through collisions with vehicles, displacement because of human disturbance, or other factors.

1. Identify, map, quantify, and evaluate impacts of existing roads, including 2-tracks, in relation to known lek locations and sage grouse winter ranges.
2. Consider impacts to sage grouse when designing new roads and modifying existing roads.
3. Consider seasonal use restrictions or signing to avoid disturbance of critical times, such as winter and nesting periods.
4. Consider the use of speed bumps where appropriate to reduce vehicle speeds near leks, such as during oil and gas development.
5. Manage on-road travel and OHV use in key grouse areas to avoid disturbance during critical times such as winter and nesting periods.
6. Plan or permit organized events to avoid increased traffic and impacts to sage grouse.
7. Manage motorized and mechanized travel to minimize impacts to sage grouse and their habitat by developing standards for future roads to give to BLM, FS, BIA, state, county, and private parties.
8. Manage motorized and mechanized travel to minimize impacts to sage grouse by increasing enforcement of existing OHV and travel management plans.
9. Provide educational opportunities for users of OHVs dealing with the possible effects they may have on sage grouse.

Issue: Roads and their associated disturbances and cumulative effects contribute to the loss of habitat and declining sage grouse populations.

1. Develop a transportation management plan across ownership boundaries in critical sage grouse habitats.
2. Participate in travel planning efforts and educate the general public about the impacts of roads on sage grouse and critical habitat.
3. Consider buffers, removal, realignment, or seasonal closures where appropriate to avoid degradation of habitat.
4. Re-vegetate closed roads with plant species beneficial to sage grouse.
5. Close and re-vegetate travel ways in sage grouse habitats where appropriate.
6. Provide sage grouse habitat information during the planning phases of transportation development, working with MDOT, FHWA, industry, counties, etc.

Vegetation

Issue: Conifer encroachment reduces sagebrush habitat.

1. Map and inventory areas believed to be impacted by conifer expansion.
2. If conifer encroachment is a concern, options for treatment include:
 - a) prescribed fires when and where feasible,
 - b) remove trees mechanically when feasible, and
 - c) apply herbicides when and where feasible.
3. Reclaim and/or re-seed areas disturbed by treatments when necessary. Include native forbs and grasses in all reclamation and seeding activities.

Issue: Information regarding sagebrush distribution is incomplete.

1. Identify the remaining breeding and winter areas for sage grouse.
2. Improve the classification of sagebrush cover to distinguish density and species.
3. Complete a mid to broad scale assessment to identify conservation priorities across the state.

Issue: The age distribution of sagebrush may have been altered by management, such as a young stand recovering from disturbance or a mature stand with poor regeneration.

1. Map and inventory areas believed to be deficient in quality of habitat or exhibiting poor health.
2. Evaluate the site potential and desired condition, and develop specific objectives accordingly within specific landscapes.
3. If sagebrush is lacking:
 - a) develop and implement grazing practices that influence sagebrush growth,
 - b) inter-seed historical breeding and winter habitats with the appropriate sagebrush species,
 - c) identify and promote seed sources for habitat restoration efforts,
 - d) encourage the voluntary use of sagebrush in habitat incentive programs, such as the Conservation Reserve Program, and work to develop additional funding sources for such programs,
 - e) reclaim and/or re-seed areas disturbed by treatments when necessary, and
 - f) promote sage plantings, where appropriate, on project areas occurring within sage grouse habitats.
4. If mature sagebrush dominates with suppressed herbaceous understory:
 - a) identify areas of dense mature cover that do not appear to be serving as quality habitat and analyze these areas within the context of a larger landscape,

- b) design sagebrush treatments to be compatible with sage grouse needs,
- c) develop specific objectives for sage grouse in breeding or winter habitats, and
- d) if treatment is deemed appropriated, interrupt several stages within the appropriate patch size using the appropriate method, such as brush beating, chaining, chemical means, prescribed fire, etc. that are compatible with local conditions.

Issue: The plant community has been altered and lack a diverse herbaceous understory.

1. Map and inventory areas believed to be important sage grouse breeding habitats.
2. Evaluate the site potential and desired condition within the context of a larger landscape.
3. Develop and implement techniques to increase herbaceous diversity and density in sagebrush-steppe within ecological limits.
4. Ensure that grazing practices allow plants to grow to seed ripe on a rotational basis.
5. Adjust livestock grazing management when necessary, such as the season of use/projects, to promote forb establishment and recruitment.
6. Identify large areas of introduced plant species, such as crested wheat, and determine if restoration efforts are deemed appropriate.
7. Interseed appropriate breeding habitats with forbs as identified by the specialists and affected interests.
8. If mature sagebrush dominates with suppressed herbaceous understory:
 - a) identify areas of dense mature cover that do not appear to be serving as quality habitat and analyze these areas within the context of a larger landscape,
 - b) design sagebrush treatments to be compatible with sage grouse need,
 - c) develop specific objectives for sage grouse in breeding or winter habitats, and
 - d) if treatment is deemed appropriate, interrupt seral stages within the appropriate patch size using the appropriate method, such as brush beating, chaining, chemical means, prescribed fire, etc. compatible with local conditions.
9. Identify and promote seed sources for habitat restoration efforts.
10. Identify landowner incentives and additional funding sources to enhance existing programs, such as to enhance the CRP.

Issue: Residual understory is lacking in sagebrush stands, mainly in breeding habitats.

1. Develop incentives to promote desired habitat conditions on private lands.
2. Manage grazing by domestic livestock and wild herbivores to retain and promote adequate residual cover in

all breeding habitats with an emphasis on nesting areas.

3. Ensure that grazing allotment plans include objectives for sage grouse in sage grouse habitats.
4. Monitor USFS/BLM/State allotment plans and regulations, and make changes where necessary.
5. Include native grasses in all reclamation and restoration activities.

SAGE GROUSE GUIDELINES (WAFWA)

Sage grouse populations occupy relatively large areas on a year-round basis (Berry and Eng 1985, Connelly et al. 1988, Wakkinen 1990, Leonard et al. 2000), invariably involving a mix of ownerships and jurisdictions. Thus, state and federal natural resource agencies and private landowners must coordinate efforts over at least an entire seasonal range to successfully implement these guidelines. Based on current knowledge of sage grouse population and habitat trends, these guidelines have been developed to help agencies and landowners effectively assess and manage populations, protect and manage remaining habitats, and restore damaged habitat. Because of gaps in knowledge and regional variation in habitat characteristics (Tisdale and Hironaka 1981), the judgment of local biologists and quantitative data from population and habitat monitoring are necessary to implement the guidelines correctly. Further, agencies are urged to use an adaptive management approach (Macnab 1983, Gratson et al. 1993), using monitoring and evaluation to assess the success of implementing these guidelines to manage sage grouse populations. These are the guidelines that will be used as standards in Alternative C management along with the Montana Sage Grouse Conservation Strategy conservation measures.

Activities responsible for the loss or degradation of sagebrush habitats also may be used to restore habitat. These activities include prescribed fire, grazing, herbicides, and mechanical treatments. Decisions on land treatments using these tools should be based on quantitative knowledge of vegetative conditions over an entire population's seasonal range.

Generally, the treatment selected should be that which is least disruptive to the vegetation community and has the most rapid recovery time. This selection should not solely be based on economic cost.

DEFINITIONS

For the purpose of these guidelines, an occupied lek is defined as a traditional display area in or adjacent to

sagebrush-dominated habitats that has been attended by ≥ 2 male sage grouse in ≥ 2 of the previous 5 years. A breeding population is defined as a group of birds associated with one or more occupied leks in the same geographic area separated from other leks by ≥ 20 km. This definition is somewhat arbitrary but generally based on maximum distances females move to nest.

GENERAL HABITAT MANAGEMENT

The following guidelines pertain to all seasonal habitats used by sage grouse.

1. Monitor habitat conditions and only propose treatments if warranted by range condition (i.e., the area no longer supports habitat conditions described in the following guidelines under habitat protection). Do not base land treatments on schedules, targets, or quotas.
2. Use appropriate vegetation treatment techniques (e.g., mechanical methods, fire) to remove junipers and other conifers that have invaded sage grouse habitat (Commons et al. 1999). Whenever possible, use vegetation control techniques that are least disruptive to the stand of sagebrush, if this stand meets the needs of sage grouse (Table 3).
3. Increase the visibility of fences and other structures occurring within one km of seasonal ranges by flagging or similar means if these structures appear hazardous to flying grouse (e.g., birds have been observed hitting or narrowly missing these structures or grouse remains have been found next to these structures).
4. Avoid building powerlines and other tall structures providing perch sites for raptors within 3 km of seasonal habitats. If these structures must be built, or presently exist, the lines should be buried or poles modified to prevent their use as raptor perch sites.

BREEDING HABITAT MANAGEMENT

For both migratory and non-migratory populations, lek attendance, nesting, and early brood rearing occur in breeding habitats. These habitats are sagebrush-dominated rangelands with a healthy herbaceous understory and are critical for survival of sage grouse populations. Mechanical disturbance, prescribed fire, and herbicides can be used to restore sage grouse habitats to those conditions identified as appropriate in the following sections on habitat protection. Local biologists and range ecologists should select the appropriate technique on a case-by-case basis. Generally, fire should not be used in breeding habitats dominated by Wyoming

big sagebrush if these areas support sage grouse. Fire can be difficult to control and tends to burn the best remaining nesting and early brood rearing habitats (i.e., those areas with the best remaining understory), while leaving areas with poor understory. Further, using fire in habitats dominated by xeric mountain big sagebrush (*A. t. xericensis*) is not recommended because annual grasses commonly invade these habitats and much of the original habitat has been altered by fire (Bunting et al. 1987).

Although mining and energy development are common activities throughout the range of sage grouse, quantitative data on the long-term effects of these activities on sage grouse are limited. However, some negative impacts have been documented (Braun 1998, Lyon 2000). Thus, these activities should be discouraged in breeding habitats, but, when unavoidable, restoration efforts should follow procedures outlined in these guidelines.

Habitat Protection

1. Manage breeding habitats to support 15-25% canopy cover of sagebrush, perennial herbaceous cover averaging ≥ 18 cm in height with $\geq 15\%$ canopy cover for grasses and $\geq 10\%$ for forbs and a diversity of forbs (Barnett and Crawford 1994, Drut et al. 1994a, Apa 1998) during spring (Table 3). Habitats meeting these conditions should have a high priority for wildfire suppression and should not be considered for sagebrush control programs. Sagebrush and herbaceous cover should provide overhead and lateral concealment from predators. If average sagebrush height is ≥ 75 cm, herbaceous cover may need to be substantially greater than 18 cm to provide this protection. There is much variability among sagebrush-dominated habitats (Tisdale and Hironaka 1981, Hironaka et al. 1983) and some Wyoming sagebrush and low sagebrush breeding habitats may not support 25% herbaceous cover. In these areas, total herbaceous cover should be $\geq 15\%$. Further, the herbaceous height requirement may not be possible in habitats dominated by grasses that are relatively short when mature. In all of these cases, local biologists and range ecologists should develop height and cover requirements that are reasonable and ecologically defensible. Leks tend to be relatively open, thus cover on leks should not meet these requirements.
2. For non-migratory grouse occupying habitats that are distributed uniformly (i.e., habitats have the characteristics described in guideline 1 and are generally distributed around the leks), protect (i.e., do not manipulate) sagebrush and herbaceous understory within 3.2 km of all occupied leks. For non-migratory populations, consider leks the center of year-round activity and use them as focal points for management efforts (Braun et al. 1977).
3. For non-migratory populations where sagebrush is not distributed uniformly (i.e., habitats have the characteristics described in guideline 1 but distributed irregularly with respect to leks), protect suitable habitats for ≤ 5 km from all occupied leks. Use radiotelemetry, repeated surveys for grouse use, or habitat mapping to identify nesting and early brood rearing habitats.
4. For migratory populations, identify and protect breeding habitats within 18 km of leks in a manner similar to that described for non-migratory sage grouse. For migratory sage grouse, leks generally are associated with nesting habitats but migratory birds may move > 18 km from leks to nest sites. Thus, protection of habitat within 3.2 km of leks may not protect most of the important nesting areas (Wakkinen et al. 1992, Lyon 2000).
5. In areas of large-scale habitat loss ($\geq 40\%$ of original breeding habitat), protect all remaining habitats from additional loss or degradation. If remaining habitats are degraded, follow guidelines for habitat restoration listed below.
6. During drought periods (≥ 2 consecutive years), reduce stocking rates or change management practices for livestock, wild horses and wild ungulates if cover requirements during the nesting and brood rearing periods are not met. Grazing pressure from domestic livestock and wild ungulates should be managed in a manner that, at all times, addresses the possibility of drought.
7. Suppress wildfires in all breeding habitats. In the event of multiple fires, land management agencies should have all breeding habitats identified and prioritized for suppression, giving the greatest priority to breeding habitats that have become fragmented or reduced by $\geq 40\%$ in the last 30 years.
8. Adjust timing of energy exploration, development, and construction activity to minimize disturbance of sage grouse breeding activities. Energy-related facilities should be located ≥ 3.2 km from active leks whenever possible. Human activities within view of or ≤ 0.5 km from leks should be minimized during the early morning and late evening when birds are near or on leks.

Habitat Restoration

1. Before initiating vegetation treatments, quantitatively evaluate the area proposed for treatment to ensure that it does not have sagebrush and herbaceous cover suitable for breeding habitat. Treatments should not be undertaken within sage grouse habitats until the limiting vegetation factor(s) has been identified, the proposed treatment is known to provide the desired vegetation response, and land use activities can be man-

aged after treatment to ensure that vegetation objectives are met.

2. Restore degraded rangelands to a condition that again provides suitable breeding habitat for sage grouse by including sagebrush, native forbs (especially legumes), and native grasses in reseeding efforts (Apa 1998). If native forbs and grasses are unavailable, use species that are functional equivalents and provide habitat characteristics similar to those of native species.
3. Where the sagebrush overstory is intact but the understory has been degraded severely and quality of nesting habitat has declined, use appropriate techniques (e.g., brush beating in strips or patches and interseed with native grasses and forbs) that retain some sagebrush but open shrub canopy to encourage forb and grass growth.
4. Do not use fire in sage grouse habitats prone to invasion by cheatgrass and other invasive weed species unless adequate measures are included in restoration plans to replace the cheatgrass understory with perennial species using approved reseeding strategies. These strategies could include, but are not limited to, use of pre-emergent herbicides (e.g., Oust®, Plateau®) to retard cheatgrass germination until perennial herbaceous species become established.
5. When restoring habitats dominated by Wyoming big sagebrush, regardless of the techniques used (e.g., prescribed fire, herbicides), do not treat >20% of the breeding habitat (including areas burned by wildfire) within a 30-year period (Bunting et al. 1987). The 30-year period represents the approximate recovery time for a stand of Wyoming big sagebrush. Additional treatments should be deferred until the previously treated area again provides suitable breeding habitat. In some cases, this may take <30 years and in other cases >30 years. If 2,4-D or similar herbicides are used, they should be applied in strips such that their effect on forbs is minimized. Because fire generally burns the best remaining sage grouse habitats (i.e., those with the best understory) and leaves areas with sparse understory, use fire for habitat restoration only when it can be convincingly demonstrated to be in the best interest of sage grouse.
6. When restoring habitats dominated by mountain big sagebrush, regardless of the techniques used (e.g., fire, herbicides), treat <20% of the breeding habitat (including areas burned by wildfire) within a 20-year period (Bunting et al. 1987). The 20-year period represents the approximate recovery time for a stand of mountain big sagebrush. Additional treatments should be deferred until the previously treated area again provides suitable breeding habitat. In some cases, this may take <20 years and in other cases >20 years. If 2,4-D or similar

herbicides are used, they should be applied in strips such that their effect on forbs is minimized.

7. All wildfires and prescribed burns should be evaluated as soon as possible to determine if reseeding is necessary to achieve habitat management objectives. If needed, reseed with sagebrush, native bunchgrasses, and forbs whenever possible.
8. Until research unequivocally demonstrates that using tebuthiuron and similar acting herbicides to control sagebrush have no long-lasting negative impacts on sage grouse habitat, use these herbicides only on an experimental basis and over a sufficiently small area that any long-term negative impacts are negligible. Because these herbicides have the potential of reducing but not eliminating sagebrush cover within grouse breeding habitats, thus stimulating herbaceous development, their use as sage grouse habitat management tools should be examined closely.

SUMMER-LATE BROOD REARING HABITAT MANAGEMENT

Sage grouse may use a variety of habitats, including meadows, farmland, dry lakebeds, sagebrush, and riparian zones from late June to early November (Patterson 1952, Wallestad 1975, Connelly 1982, Hanf et al. 1994). Generally, these habitats are characterized by relatively moist conditions and many succulent forbs in or adjacent to sagebrush cover.

Habitat Protection

1. Avoid land use practices that reduce soil moisture effectiveness, increase erosion, cause invasion of exotic plants, and reduce abundance and diversity of forbs.
2. Avoid removing sagebrush within 300 m of sage grouse foraging areas along riparian zones, meadows, lakebeds, and farmland, unless such removal is necessary to achieve habitat management objectives (e.g., meadow restoration, treatment of conifer encroachment).
3. Discourage use of very toxic organophosphorus and carbamate insecticides in sage grouse brood rearing habitats. Sage grouse using agricultural areas may be affected adversely by pesticide applications (Blus et al. 1989). Less toxic agri-chemicals or biological control may provide suitable alternatives in these areas.
4. Avoid developing springs for livestock water, but if water from a spring will be used in a pipeline or trough, design the project to maintain free water and wet meadows at the spring. Capturing water from springs using pipelines and troughs may affect adversely wet meadows used by grouse for foraging.

Habitat Restoration

1. Use brush beating or other mechanical treatments in strips 4-8 m wide in areas with relatively high shrub canopy cover (>35% total shrub cover) to improve late brood rearing habitats. Brush beating can be used to effectively create different age classes of sagebrush in large areas with little age diversity.
2. If brush beating is impractical, use fire or herbicides to create a mosaic of openings in mountain big sagebrush and mixed shrub communities used as late brood rearing habitats where total shrub cover is >35%. Generally, 10-20% canopy cover of sagebrush and <25% total shrub cover will provide adequate habitat for sage grouse during summer.
3. Only construct water developments for sage grouse in or adjacent to known summer use areas and provide escape ramps suitable for all avian species and other small animals. Water developments and “guzzlers” may improve sage grouse summer habitats (Autenrieth et al. 1982, Hanf et al. 1994). However, sage grouse used these developments infrequently in southeastern Idaho because most were constructed in sage grouse winter and breeding habitat, rather than summer range (Connelly and Doughty 1989).
4. Whenever possible, modify developed springs and other water sources to restore natural free-flowing water and wet meadow habitats.

WINTER HABITAT MANAGEMENT

Sagebrush is the essential component of winter habitat. Sage grouse select winter use sites based on snow depth and topography and snowfall can affect the amount and height of sagebrush available to grouse (Connelly 1982, Hupp and Braun 1989, Robertson 1991). Thus, on a landscape scale, sage grouse winter habitats should allow grouse access to sagebrush under all snow conditions.

Habitat Protection

1. Maintain sagebrush communities on a landscape scale, allowing sage grouse access to sagebrush stands with canopy cover of 10-30% and heights of at least 25-35 cm regardless of snow cover. These areas should be high priority for wildfire suppression and sagebrush control should be avoided.
2. Protect patches of sagebrush within burned areas from disturbance and manipulation. These areas may provide the only winter habitat for sage grouse and their loss could result in the extirpation of the grouse popu-

lation. They also are important seed sources for sagebrush reestablishment in the burned areas. During fire suppression activities do not remove or burn any remaining patches of sagebrush within the fire perimeter.

3. In areas of large-scale habitat loss ($\geq 40\%$ of original winter habitat), protect all remaining sagebrush habitats.

Habitat Restoration

1. Reseed former winter range with the appropriate subspecies of sagebrush and herbaceous species unless the species are re-colonizing the area in a density that would allow recovery within 15 years.
2. Discourage prescribed burns >50 ha and do not burn >20% of an area used by sage grouse during winter within any 20-30 year interval (depending on estimated recovery time for the sagebrush habitat).

THREATENED OR ENDANGERED SPECIES SCREENS

Grizzly bears, wolves, bald eagles, and lynx are the listed species that occur incidentally throughout the Dillon Field Office. This appendix describes analysis screens developed by a Level 1 team of interagency field biologists to facilitate, streamline, and ensure consistency across administrative boundaries during Section 7 consultation under the Endangered Species Act.

The screens are designed to identify simple, straightforward actions that have insignificant or discountable effects on listed species. If proposed actions are fully compliant with the wildlife screens, and the screen leads to a “not likely to adversely affect” conclusion, they will likely be covered for terrestrial species by a programmatic concurrence from the U.S. Fish and Wildlife Service. These proposed actions could proceed once the appropriate documentation (i.e. biological assessment or worksheet with appropriate documentation) is completed. The screens are not all inclusive because some projects warrant additional analyses from the onset. Furthermore, even though an action is identified in the screen, the standard consultation procedure could still be required. A qualified wildlife biologist is responsible for implementing the screening process.

Wildlife screens are attached for bald eagle, gray wolf, and grizzly bear. Measures identified in the Lynx Conservation and Assessment Strategy (LCAS) will serve as the screen for lynx.

The Level 1 team is currently determining the appropriate format documentation procedure for the wildlife screening process. At a minimum, the action agency would be required to submit periodic progress reports for NLAA actions that have been consulted on using the programmatic concurrence.

The following sections provide guidance on how to use the wildlife screens and emphasize when the programmatic concurrence would not apply. If programmatic concurrence does not apply, the standard¹ section 7 process would occur. The process described here follows and compliments the National Fire Plan consultation strategy. The screens developed for the National Fire Plan process consider the effects of certain fire-related projects and may be used to screen all National Fire Plan projects. The screens presented here consider the effects of most other activities.

CONDITIONS APPLICABLE TO ALL SCREENS

- The programmatic concurrence applies to Forest Service and BLM projects or actions where the biological assessment clearly leads to a “not likely to adversely affect” (NLAA) determination. Use of the consultation screens is intended to be a tool to arriving at an effects determination; the biologist must consider the effects of the action added to the environmental baseline and cumulative effects. The concurrence is expressly limited to those simple, straightforward actions that will have documentation supporting insignificant or discountable effects on wildlife. **More complex projects that do not clearly lead to an NLAA determination or those projects for which the project biologist has any threatened and endangered wildlife species concerns do not qualify for this programmatic concurrence. For these projects, biologists should follow standard consultation processes.**
- Further, projects not meeting or included in the species-specific criteria are not covered by the programmatic consultation and must follow the standard processes for conducting project analysis, biological assessment development, and consultation. Several activities are not included in the species’ screens because the nature of the activity warrants additional consideration provided through standard consultation procedures.
- If one species does not meet the screening criteria, then standard consultation procedures need to be followed for all species. However, it is possible to use the screens as a documentation process for those species that fit the screens and include this documentation alongside the analysis for the species that do not fit the screens.
- As always, cumulative effects must be considered; cumulative effects findings may cause the project to go to standard consultation.
- No Effect determinations are included in the species-specific flowcharts to assist in overall effect determinations even though consultation is not necessary.
- Application of the screens and determination of project effects for compliance with Section 7 must be accomplished by a qualified wildlife biologist.
- In no case does the programmatic concurrence apply to any project or action that has the potential to cause or increase the likelihood of take as defined by the Service’s regulations.
- In the event that a project or action proceeds under the programmatic concurrence and exceeds the conditions of the programmatic concurrence, the action agency must initiate informal or formal consultation or request reaffirmation of concurrence, as appropriate, for that project or action.

¹ Standard consultation refers to the process whereby the action agency biologist commences dialogue with U.S. Fish and Wildlife Service (Service) counterparts to determine the appropriate consultation procedures. Typically this involves phone correspondence to apprise the Service of the effects of an ongoing project and to reach consensus on such an effect and to determine if informal consultation is sufficient or if the project should proceed to formal consultation. Upon agreement of the respective consultation procedure, the action agency biologist will submit the appropriate request and documentation to the Service for concurrence or a biological opinion.

GRIZZLY BEAR PROJECT SCREENING ELEMENTS AND DETERMINATIONS (DRAFT 2/21/2002)

The following grizzly bear screening process is intended to facilitate ESA processing of project consultation requirements for minor projects, when a “no effect” or “not likely to adversely affect” determination is “clearly” the appropriate conclusion. Projects not meeting or included in the criteria presented must follow standard processes for conducting project analysis, BA development, and consultation.

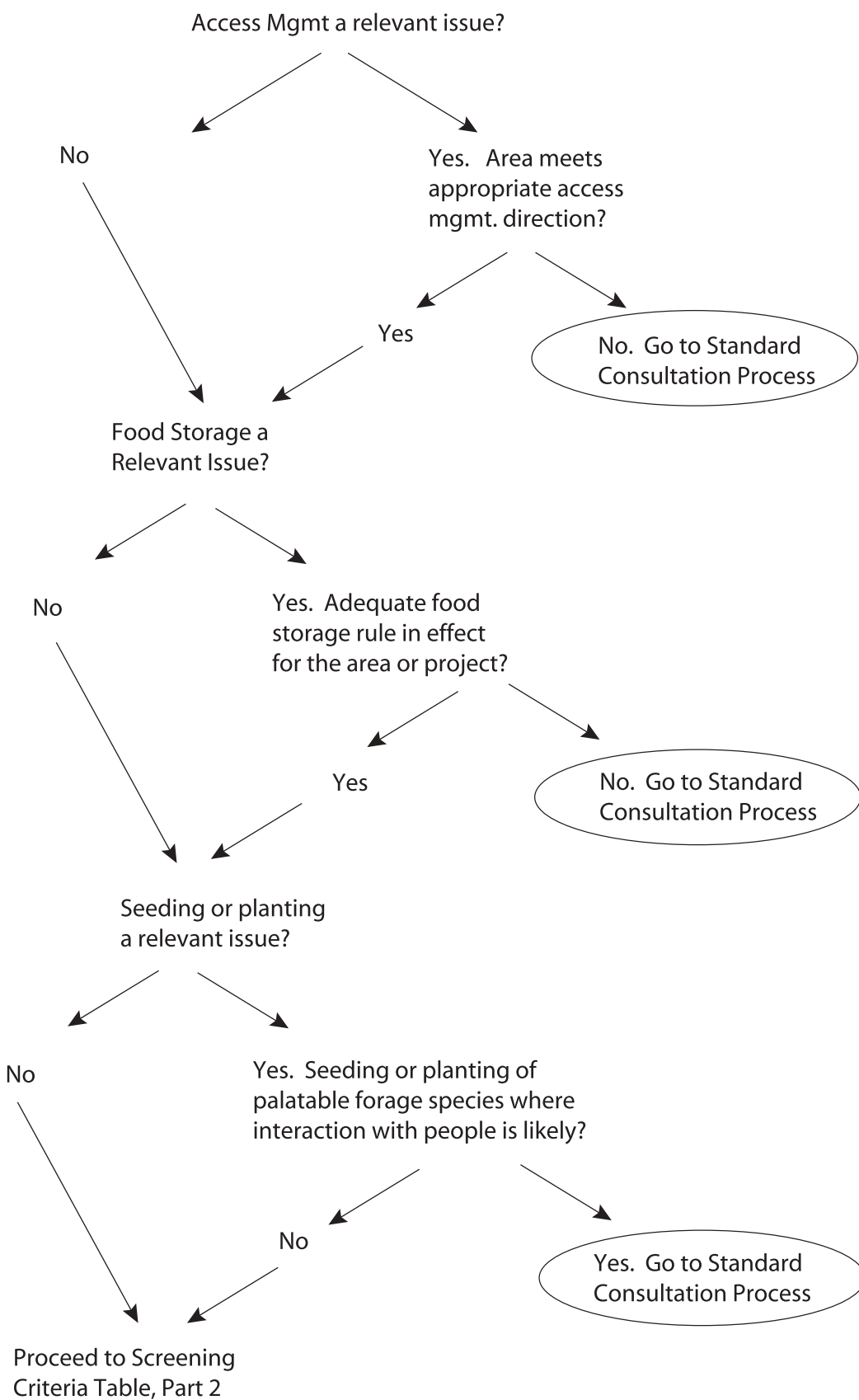
The process relies heavily upon criteria developed as a part of the R1, R4, R6 National Fire Plan Consultation Screening Process, LRMPs, consultation processes, and other relevant plans. Criteria may differ among areas or units, but since the criteria have gone through planning, decisions, and review, they are considered adequate management elements for this process.

The grizzly bear screen is two-tiered. The Grizzly Bear Screening Process Part 1 is the first tier. If a proposed project does not satisfy the three considerations identified in Part 1 then standard consultation procedures must be followed. If the proposed project successfully meets the criteria identi-

fied in Part 1 then proceed to Part 2. Passing to the next tier does not immediately guarantee that a project will be covered by the programmatic concurrence. If the project results in a “Not Likely to Adversely Affect” determination then the project is covered under the programmatic concurrence. If the project could potentially result in a “Likely to Adversely Affect” determination then standard consultation processes need to be followed.

Three considerations are prerequisite to more detailed consideration of other project information and are considered in screening process Part 1. (1) The area must be in compliance with the appropriate access management direction. (2) Human foods, livestock feed, garbage, and other attractants must be managed by the application of an adequate “food storage rule” similar to the NCDE or Yellowstone food storage orders. If no specific rule exists for the area, use of either the Yellowstone or NCDE order will be considered adequate. (3) Projects that involve seeding or planting of grasses, forbs, or shrubs, must do so in a manner that will tend not to attract bears into areas where increased mortality risk or interaction between bears and people is likely.

After access management, food/attractant storage, and seeding/planting of grasses, forbs, or shrubs have been considered in Part 1, only then can other project details be considered in Part 2 of the screening process

Grizzly Bear Screening Process Part 1

Part 2: The following Screening Criteria Table displays activities and criteria, that when met, will allow the project to meet “screening elements”. If the project does not meet the identified criteria, the project should proceed through the established consultation process.

#	Activity Type	Activity Component	Crew Level and Duration of Use	Screening Criteria	Determination
1	Forest Products	Personal use firewood collection, berry picking, low/incidental mushroom picking, and collection of “other forest products” (such as bear grass greens, medicinal herbs, pachistima, etc)	Day and overnight use	Does not include off road mechanical skidding. Include “bear aware” education message	NLAA
		Commercial firewood collection, berry picking, and “other forest products” (such as bear grass greens, medicinal herbs, pachistima, etc), but does not include mushrooms.	Day use only or camping of ≤ 20 individuals and ≤ 5 days total/analysis area	Does not include off road mechanical skidding. Enforce sanitation standards, and Include “bear aware” education message.	NLAA
2	Mechanical	Off road heavy equip operation, such as site prep, fuel piling, log yarding, etc	NA	NA	Potential LAA, go to Standard Consultation process
		Helicopter use for monitoring, prescribed fire ignition, wildlife relocations, etc	Use includes few trips and ≤ 2 activities/year and ≤ 2 days/activity/analysis area	NA	NLAA
3	Habitat Restoration	See timber harvest, mechanical treatments, roads, weed control, and prescribed fire. Also includes monitoring, exclosure development, fish barrier development, fish spp removal/trapping, rotenone treatment, interpretation/Con Ed, meadow restoration, riparian planting and restoration, snag creation, and water source development.	Day use only or camping of ≤ 20 individuals and ≤ 5 days/analysis area	Project occurs between July 1 through March 31 or completed in ≤ 1 day in riparian areas. Project does not result in an increase in public use or user type.	NLAA
4	Prescribed Fire	General support, ignition, mop-up	Day use only or camping of ≤ 20 individuals and ≤ 5 days/analysis area	Does not include riparian areas	NLAA
		Fire line construction	Same as support	Fire line does not/will not function as a travel way	NLAA
		Defensible space treatments (within 100m of structure)	Same as support	Planting and/or seeding does not include palatable forage spp.	NLAA
5	Range	Infrastructure development	NA	NA	NLAA
		Grazing		Maintains or reduces existing livestock grazing or changes livestock class to a less vulnerable spp, and no history of depredation or control actions	NLAA

#	Activity Type	Activity Component	Crew Level and Duration of Use	Screening Criteria	Determination
		Grazing		Increases livestock grazing, introduces new grazing into areas where depredation more likely, or history of livestock depredation	Potential LAA, go to Standard Consultation process
6	Recreation	Trail maintenance or reconstruction	NA	Results in increased use or change of user type	Potential LAA, go to Standard Consultation process
		Trail maintenance or reconstruction		Does not result in increase in use or change in user type	NLAA
		New Trail construction			Potential LAA, go to Standard Consultation process
		Facility operations, including developed and dispersed camping		Educate public campers and enforce sanitation standards. Does not increase use or change user type.	NLAA
		Facility operations, including developed and dispersed camping		Sanitation standards are not enforced or use is increased or user type is changed.	Potential LAA, go to Standard Consultation process
7	Roads & Road Maintenance	Opening closed road			Potential LAA, go to Standard Consultation process
		Reclaiming road outside of riparian/spring habitat		Meets administrative use levels	NLAA
		Reclaiming road in riparian/spring hab		Project occurs between July 1 through March 31 or completed in ≤ 1 day, and meets administrative use levels	NLAA
		Reclaiming road		Does not meet administrative use levels, or occurs in riparian/spring habitat and active during 4/1-6/30	Potential LAA, go to Standard Consultation process
		Road Maint: blading, culvert cleaning, brushing, etc		Road is open, or use meets administrative use criteria	NLAA
		New road construction			Potential LAA, go to Standard Consultation process

#	Activity Type	Activity Component	Crew Level and Duration of Use	Screening Criteria	Determination
		Bridge or stream culvert replacement		Project occurs between July 1 through March 31 or completed in ≤ 1 day	NLAA
8	Silviculture Activities	Reforestation hand planting	Day use only or camping of ≤ 20 individuals and ≤ 5 days/analysis area	Does not include snow plowing for access	NLAA
		Reforestation mechanical treatments	NA	NA	Potential LAA, go to Standard Consultation process
		Insect suppression Aerial chemical application	NA	Chemicals do not effect cutworm moth or habitat	NLAA
		Insect suppression Aerial chemical application	NA	Chemicals affect cutworm moth or habitat, and in moth habitat	Potential LAA, go to Standard Consultation process
		Insect suppression ground chemical application	NA	NA	NLAA
		Insect suppression survey, fertilization, manual treatment, individual tree fire treatment, or pheromone treatment	NA	NA	NLAA
		Precommercial thinning			Potential LAA, go to Standard Consultation process
9	Timber harvest	Harvest, skidding, and/or hauling of timber products	NA	NA	Potential LAA, go to Standard Consultation process
10	Watershed restoration	Includes erosion control structures, sediment control, monitoring. Also, see reforestation, timber harvest, mechanical treatments, etc.	Day use only or camping of ≤ 20 individuals and ≤ 5 days/analysis area	Project occurs between July 1 through March 31 or completed in ≤ 1 day	NLAA
11	Weed control	Chemical, aerial or ground application	NA	NA	NLAA
		Sheep or goat grazing	NA	NA	Potential LAA, go to Standard Consultation process

BALD EAGLE PROJECT SCREENING ELEMENTS AND DETERMINATIONS (DRAFT 2/21/2002)

The bald eagle screen includes definitions and flowcharts to assist in the effects determination. If, according to the flowcharts, the project arrives at an NLAA determination, then the project qualifies for the programmatic concurrence. If the project arrives at 'Standard Consultation' then the aforementioned procedures must be followed.

All attempts were made to adhere to and be compatible with the guidance found in the Montana Bald Eagle Management Plan (July 1994). Please refer to the Montana Bald Eagle Management Plan for further, more detailed, information. For a proposed activity in or near bald eagle breeding habitat, take it through each of the screens that refers to the location in which the project will occur (e.g. Zone I, etc.). Read each separate section if it is within the area of zone affected.

Definitions:

Zone I-Nest Site Area, 1/4 mi (400 m) radius of all nest sites in the breeding area that have been active within 5 years or until an active nest is located. When an active nest is located, Zone I applies only to the active nest (MBEMP p.23). Zone maps may be modified if sufficient information on the bald eagles using them exists.

Zone II-Primary Use Area, includes the area 1/4 mi (400 m) to 1/2 mi (800 m) from all nest sites in the breeding area that have been active within 5 years or until an activities nest is located. When an active nest is located, Zone II applies only to the active nest (*Id.*p.23).

Zone III-Home Range, represents most of a home range used by eagles during the nesting season. It usually includes all suitable foraging habitat within 2.5 mi (4 km) of all nest sites in the breeding area that have been active within 5 years (*Id.* p.24).

Foraging Habitat-includes foraging habitat outside of Zones I, II and III where resident breeding birds may forage. This is essential for the entire population, not just resident breeding eagles. Includes lakes, rivers, wetlands and meadows (*Id.* p.24).

Human Activity-examples of low intensity such as dispersed recreation; high intensity is heavy equipment use, blasting, logging, or concentrated recreation (*Id.* p.24).

Development-development that may increase human activity levels or negatively impact bald eagle habitat (*Id.* p. 24 refers to permanent development)

Nesting Season (dates)-as early as Feb. 1 and as late as Aug. 15 in MT (*Id.* p.22); nest specific information will firm up the dates for that nest/pair

Postfledging-birds leave the nest area, generally in Aug. in MT

Habitat alteration-that which may negatively affect bald eagles include, but are not limited to, timber harvest, prescribed fire, power line construction, pesticide use, land clearing, stream channeling, levee or dam construction or wetland drainage (*Id.*p.23).

Nesting and feeding habitat characteristics-see MBEMP p. 27-28

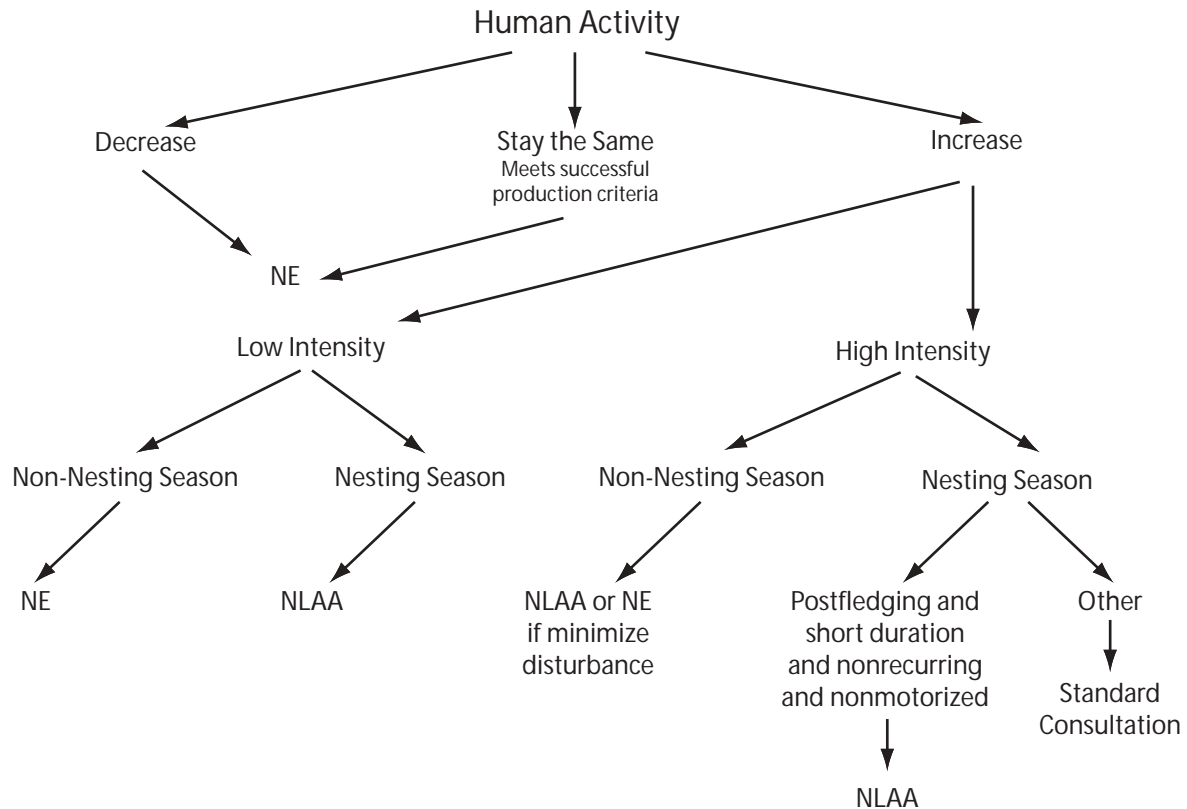
Structures-example of a structure hazardous to bald eagles is overhead utility lines (*Id.* p.24)

Disturbance-any human elicited response that induces a behavioral or physiological change in a bald eagle contradictory to those that facilitate survival and reproduction. Disturbance may include elevated heart or respiratory rate, flushing from a perch or events that cause a bald eagle to avoid an area or nest site (*Id.* p. 48).

Key use areas-Parts of Zone III most used by bald eagles

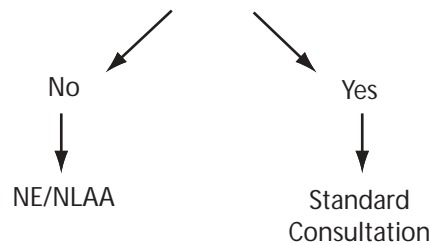
Successful Production Criteria-60% nest success and has fledged 3 or more young during the preceding 5 years (*Id.* p. 23)

ZONE I AND II



ZONE I AND II

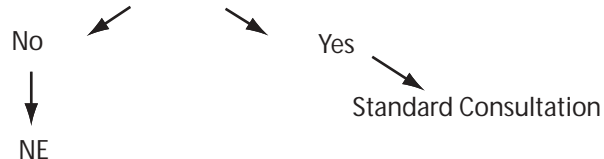
Permanent Development
(also see Habitat Alteration)



ZONE I AND II*

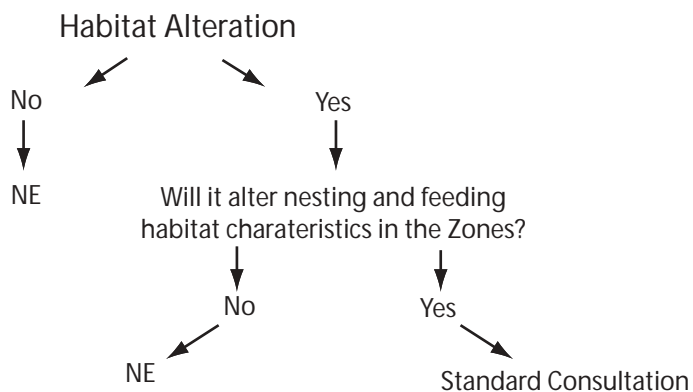
Repeated flights by helicopter, light plane, hang glider, paraglider, parachute or hot air balloon under the control of any agency (permitted, etc.)

during nesting season, less than 1/2 mile above nest* in Zone I or II within line of sight of nest, and Zone I outside of line of sight of nest



*not from MT BEMP, from Pacific Bald Eagle Recovery Plan, p. 53 (pers. comm. Eric Greenquist to Carole Jorgensen)

ZONE I, II AND III

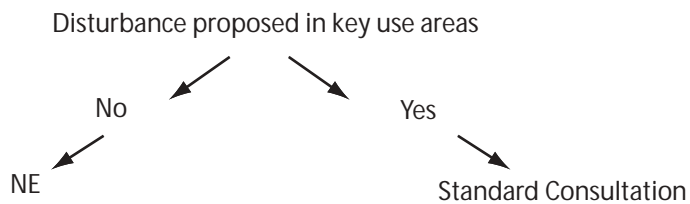


ZONE II and III and Foraging Areas

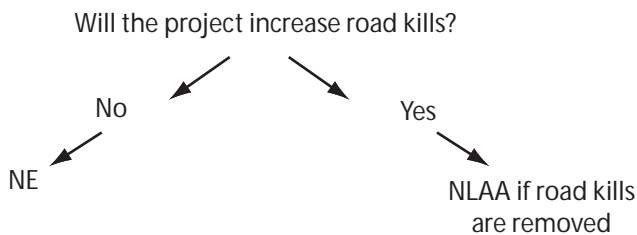
Structures proposed that pose no risk to bald eagles or their prey



ZONE III



FORAGING AREAS



WOLF PROJECT SCREENING ELEMENTS AND DETERMINATIONS (2/21/2002)

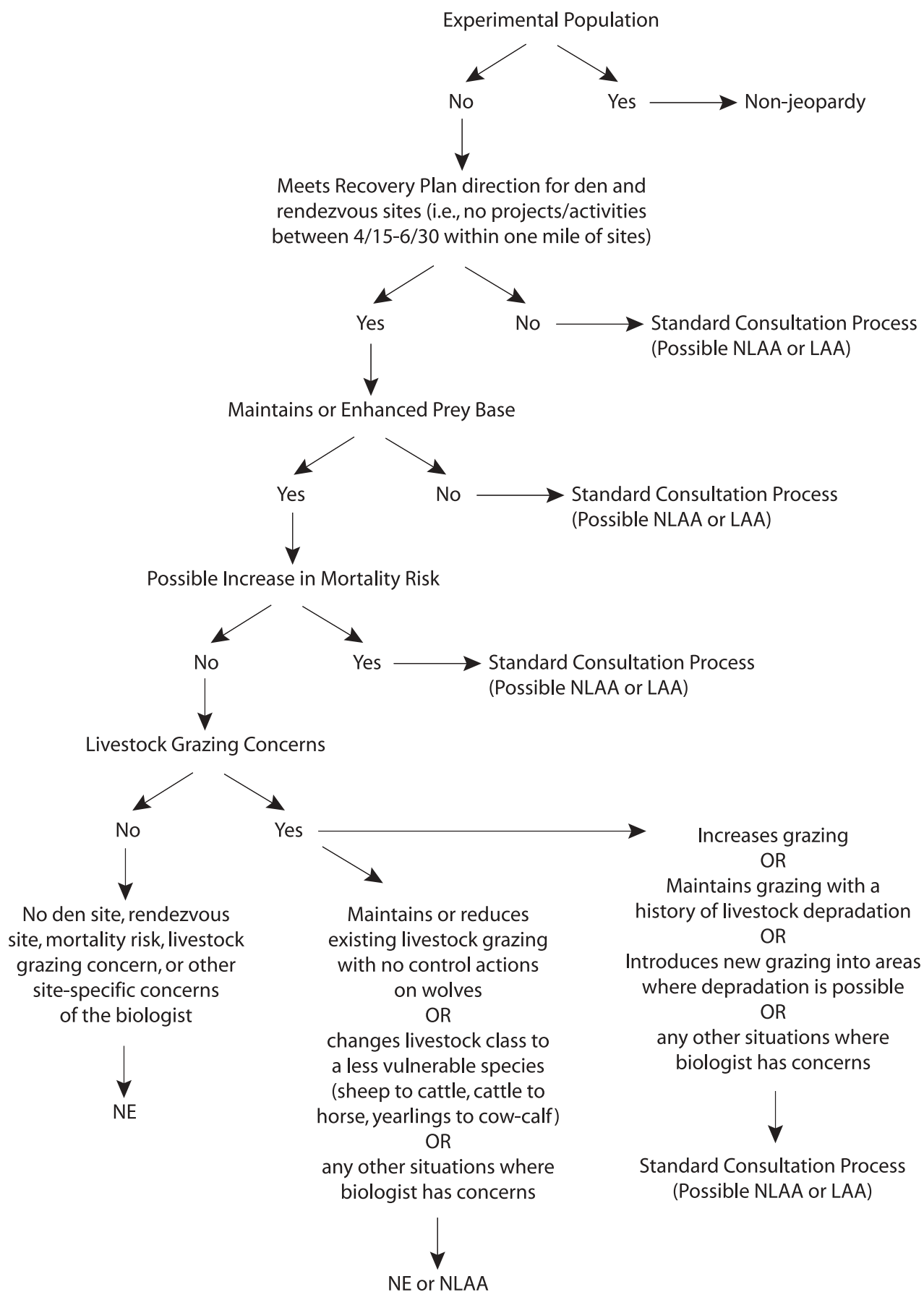
The following screening process is intended to facilitate ESA processing of project consultation requirements. The wolf screen should be used to assist in identifying projects that have “no effect” (NE) or “not likely to adversely affect” (NLAA) determination calls for the wolf. All projects that do not fall into the NE or NLAA must consider the wolf by using the established process for evaluating impacts of proposed projects on threatened and endangered species [i.e. project analysis (including cumulative effects) Biological Assessment, and consultation with USFWS].

The gray wolf screen includes a series of flowcharts. If the project screens to the NLAA determination that is not prefaced with the ‘Standard Consultation’ requirement as identified on the flow chart, then the project qualifies for the programmatic concurrence. If the project screens to “Standard Consultation”, then the project is not included in the programmatic concurrence and standard consultation pro-

cesses need to be followed. It is possible to reach an NLAA determination and still be required to apply standard consultation procedures. This is because the nature of the project warrants additional consideration above and beyond that provided by the programmatic concurrence.

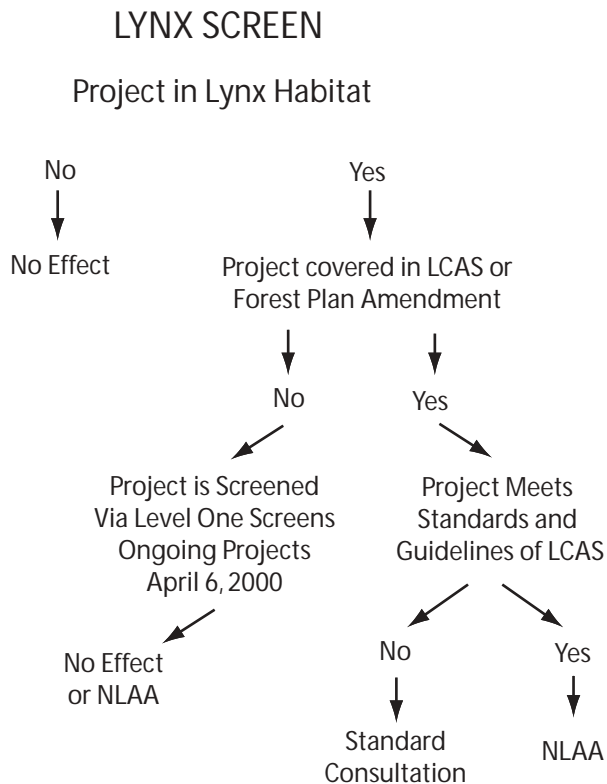
The major components of the wolf screen are population designation (wild or experimental) and whether the proposed project has any relationship to den or rendezvous sites during spring/summer, the prey base and/or livestock grazing. The original draft of the wolf screen was based on the following references and personal communications and has been modified through review by the Montana Level I Team:

- USFWS 1987. Wolf Recovery Plan.
- Fontaine, Joe. Personal communication (with Mike Hillis)
- USDA and USDI. 2000. Interior Columbia Basin Ecosystem Management Project, Final Environmental Impact Statement.
- USDA and USDI. Biological Assessment. Interior Columbia Basin Ecosystem Management Project. In preparation.



LYNX PROJECT SCREENING ELEMENTS AND DETERMINATIONS (2/21/2002)

The Lynx Conservation and Assessment Strategy will serve as the lynx screen. Projects that result in an NLAA determination as outlined in the LCAS will be covered by the programmatic concurrence. Screens may be developed that rely upon the LCAS, and documentation utilized in the “on-going” project clearance process used for lynx.



SUMMARY OF LYNX CONSERVATION ASSESSMENT AND STRATEGY (LCAS) AND LYNX CONSERVATION MEASURES

The BLM and FWS signed a Conservation Agreement to promote the conservation of the Canada lynx and its habitat on BLM lands, using the Lynx Science Report and the Lynx

Conservation and Assessment Strategy. The LCAS was developed in place of the normal recovery plan previously used for most other species listed under ESA.

The agreement and strategy identify objectives, standards, guidelines, and conservation measures to reduce or eliminate risk factors. These measures are intended to conserve the lynx, and to reduce or eliminate adverse effects from the spectrum of management activities on federal lands. These measures are provided to assist federal agencies in seeking opportunities to benefit lynx and to help avoid negative impacts through the thoughtful planning of activities. Plans that incorporate them, and projects that implement them, are generally not expected to have adverse effects on lynx, and implementation of these measures across the range of the lynx is expected to lead to conservation of the species.

Critical habitat for the Canada Lynx was not designated through the listing process. The LCAS instead relies on defining potential habitat based on vegetation characteristics and prey availability wherever that may occur since current lynx populations are small and widely dispersed. Conservation focus is to:

- Manage forested habitat within the historic range of variability for vegetation, and maintain large unfragmented blocks of forest with the appropriate structure;
- Maintain dense understory conditions providing cover and forage for snowshoe hares as the primary lynx prey base;
- Minimize snow compaction that would encourage access for competing predators into lynx habitat; and
- Provide connections within and between lynx habitat areas, emphasizing riparian habitats.

CONSERVATION MEASURES APPLICABLE TO ALL PROGRAMS AND ACTIVITIES

Because it is impossible to provide standards and guidelines to address all possible actions in all locations across the broad range of the lynx, it is imperative that project specific analysis and design be completed for all actions that have the potential to affect lynx. Circumstances unique to individual projects or actions and their locations may still result in adverse effects on lynx. In these cases, additional or modified mitigating measures may be necessary to avoid or minimize adverse effects.

Programmatic planning - objectives

1. Design vegetation management strategies that are consistent with historical succession and disturbance regimes. The broad-scale strategy should be based on a

comparison of historical and current ecological processes and landscape patterns, such as age-class distributions and patch size characteristics. It may be necessary to moderate the timing, intensity, and extent of treatments to maintain all required habitat components in lynx habitat, to reduce human influences on mortality risk and interspecific competition, and to be responsive to current social and ecological constraints relevant to lynx habitat.

Programmatic planning - standards

1. Conservation measures will generally apply only to lynx habitat on federal lands within LAUs.
2. To facilitate project planning, delineate LAUs. To allow for assessment of the potential effects of the project on an individual lynx, LAUs should be at least the size of area used by a resident lynx and contain sufficient year-round habitat.
3. To be effective for the intended purposes of planning and monitoring, LAU boundaries will not be adjusted for individual projects, but must remain constant.
4. Lynx habitat will be mapped using criteria appropriate to each geographic area.
5. Prepare a broad-scale assessment of landscape patterns that compares historical and current ecological processes and vegetation patterns, such as age-class distributions and patch size characteristics. In the absence of guidance developed from such an assessment, limit disturbance within each LAU as follows: if more than 30 percent of lynx habitat within a LAU is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result of vegetation management activities by federal agencies.

Programmatic planning - guidelines

1. The size of LAUs should generally be 6,500- 10,000 ha (16,000 – 25,000 acres or 25-50 square miles) in contiguous habitat, and likely should be larger in less contiguous, poorer quality, or naturally fragmented habitat. Larger units should be identified in the southern portions of the Northern Rocky Mountains Geographic Area (in Idaho from the Salmon River south, Oregon, Wyoming, and Utah) and in the Southern Rocky Mountains Geographic Area.

In the west, we recommend using watersheds (e.g., 6th code hydrologic unit codes (HUCs) in more northerly portions of geographic areas, and 5th code HUCs in more southerly portions). In the east, terrestrial ecological units that have been delineated at the landtype association or subsection level (e.g., LTAs or whatever scale most closely approximates the size of a lynx home range) may be an appropriate context for analysis. Coordinate delineation of LAUs with adjacent administrative units and state wildlife management agencies, where appropriate.

2. After LAUs are identified, their spatial arrangement should be evaluated. Determine the number and arrangement of contiguous LAUs needed to maintain lynx habitat well distributed across the planning area. LAUs with only insignificant amounts of lynx habitat may be discarded, or portions of the unit combined with or divided among neighboring LAUs to provide a meaningful unit for analysis.

Project planning - standards

1. Within each LAU, map lynx habitat. Identify potential denning habitat and foraging habitat (primarily snowshoe hare habitat, but also habitat for important alternate prey such as red squirrels), and topographic features that may be important for lynx movement (primary ridge systems, prominent saddles, and riparian corridors). Also identify non-forest vegetation (meadows, shrub-grassland communities, etc.) adjacent to and intermixed with forested lynx habitat that may provide habitat for alternate lynx prey species.
2. Within a LAU, maintain denning habitat in patches generally larger than 5 acres, on at least 10 percent of the area that is capable of producing stands with these characteristics. Where less than 10 percent of the forested lynx habitat within a LAU provides denning habitat, defer those management actions that would delay achievement of denning habitat structure.
3. Maintain habitat connectivity within and between LAUs.

CONSERVATION MEASURES TO ADDRESS RISK FACTORS AFFECTING LYNX PRODUCTIVITY

Timber Management in Lynx Habitat

Timber management modifies the vegetation structure and mosaic of forested landscapes. Timber management can be used in conjunction with, or in place of, fire as a disturbance process to create and maintain snowshoe hare habitat. In the southern portion of its range, lynx populations appear to be limited by the availability of snowshoe hare prey, as suggested by large home range sizes, high kitten mortality due to starvation, and greater reliance on alternate prey, especially red squirrels, as compared with populations in northern Canada. Timber management practices should be designed to maintain or enhance habitat for snowshoe hare and alternate prey such as red squirrel. Dense horizontal cover of conifers, just above the snow level in winter, is critical for snowshoe hare habitat. This structure may occur either in regenerating seedling/sapling stands, or as an understory layer in older stands.

Most aspen stands in the Rocky Mountains are in late successional condition as a result of past fire prevention and grazing. In aspen stands intermixed with spruce-fir forests, particularly in southern Idaho, southern Montana, Wyoming, Utah, and Colorado, treatments that result in dense regeneration of aspen are likely to enhance habitat for potential prey of lynx.

Programmatic planning - objectives

1. Evaluate historical conditions and landscape patterns to determine historical vegetation mosaics across landscapes through time. For example, large infrequent disturbance events may have been more characteristic of lynx habitat than small frequent disturbances.
2. Maintain suitable acres and juxtaposition of lynx habitat through time. Design vegetation treatments to approximate historical landscape patterns and disturbance processes.
3. If the landscape has been fragmented by past management activities that reduced the quality of lynx habitat, adjust management practices to produce forest composition, structure, and patterns more similar to those that would have occurred under historical disturbance regimes.

Project planning - objectives

1. Design regeneration harvest, planting, and thinning to develop characteristics suitable for snowshoe hare habitat.
2. Design project to retain/enhance existing habitat conditions for important alternate prey (particularly red squirrel).

Project planning - standards

1. Management actions (e.g., timber sales, salvage sales) shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10-year period.
2. Following a disturbance such as blowdown, fire, insects, and disease that could contribute to lynx denning habitat, do not salvage harvest when the affected area is smaller than 5 acres; exceptions would include areas such as developed campgrounds. Where larger areas are affected, retain a minimum of 10% of the affected area per LAU in patches of at least 5 acres to provide future denning habitat. In such areas, defer or modify management activities that would prevent development or maintenance of lynx foraging habitat.
3. In lynx habitat, pre-commercial thinning will be allowed only when stands no longer provide snowshoe hare habitat (e.g., self-pruning processes have eliminated snowshoe hare cover and forage availability during winter conditions with average snowpack).
4. In aspen stands within lynx habitat in the Cascade Mountains, Northern Rocky Mountains and Southern Rocky Mountains Geographic Areas, apply harvest prescriptions that favor regeneration of aspen.

Project planning - guidelines

1. Plan regeneration harvests in lynx habitat where little or no habitat for snowshoe hares is currently available, to recruit a high density of conifers, hardwoods, and shrubs preferred by hares. Consider the following:
 - a) Design regeneration prescriptions to mimic historical fire (or other natural disturbance) events, including retention of fire-killed dead trees and coarse woody debris;
 - b) Design harvest units to mimic the pattern and scale of natural disturbances and retain natural connectivity across the landscape. Evaluate the potential of riparian zones, ridges, and saddles to provide connectivity; and
 - c) Provide for continuing availability of foraging habitat in proximity to denning habitat.
2. In areas where recruitment of additional denning habitat is desired, or to extend the production of snowshoe hare foraging habitat where forage quality and quantity is declining due to plant succession, consider improvement harvests (commercial thinning, selection, etc). Improvement harvests should be designed to:
 - a) Retain and recruit the understory of small diameter conifers and shrubs preferred by hares;
 - b) Retain and recruit coarse woody debris, consistent with the likely availability of such material under natural disturbance regimes; and
 - c) Maintain or improve the juxtaposition of denning and foraging habitat.

Wildland Fire Management

Wildland fire and insects have historically played the dominant role in maintaining a mosaic of forest successional stages in lynx habitat. Stand-replacing fires were infrequent and affected large areas. In areas with a mixed fire regime, moderate to low intensity fires also occurred in the intervals between stand-replacing events. Refer to the geographic area descriptions for more detailed information regarding historical fire regimes.

Periodic vegetation disturbances maintain the snowshoe hare prey base for lynx. In the period immediately following large stand-replacing fires, snowshoe hare and lynx densities are low. Populations increase as the vegetation grows back and provides dense horizontal cover, until the vegetation grows out of the reach of hares. Low to moderate intensity fires may also stimulate understory development in older stands.

Fire exclusion may have altered the pattern and composition of vegetation in subalpine forests. In the western United States, particularly in the southern portion of the Northern Rocky Mountains Geographic Area and in the Southern Rocky Mountains Geographic Area, fire exclusion is one of the primary factors contributing to the decline or loss of aspen. Aspen communities occupy a small percentage of

the total forested area, but they provide important habitat diversity. Aspen/tall forb community types, especially those that include snowberry, serviceberry and chokecherry shrubs in the understory, are very productive and may contribute to the quality of lynx foraging habitat.

Wildland fire management activities include suppression and pre-suppression activities, as well as prescribed fire (natural and management ignitions).

Programmatic planning - objectives

1. Restore fire as an ecological process. Evaluate whether fire suppression, forest type conversions, and other forest management practices have altered fire regimes and the functioning of ecosystems.
2. Revise or develop fire management plans to integrate lynx habitat management objectives. Prepare plans for areas large enough to encompass large historical fire events.
3. Use fire to move toward landscape patterns consistent with historical succession and disturbance regimes. Consider use of mechanical pre-treatment and management ignitions if needed to restore fire as an ecological process.
4. Adjust management practices where needed to produce forest composition, structure, and patterns more similar to those that would have occurred under historical succession and disturbance regimes.
5. Design vegetation and fire management activities to retain or restore denning habitat on landscape settings with highest probability of escaping stand-replacing fire events. Evaluate current distribution, amount, and arrangement of lynx habitat in relation to fire disturbance patterns.

Project planning - objectives

1. Use fire as a tool to maintain or restore lynx habitat.
2. When managing wildland fire, minimize creation of permanent travel ways that could facilitate increased access by competitors.

Project planning - standards

1. In the event of a large wildfire, conduct a post-disturbance assessment prior to salvage harvest, particularly in stands that were formerly in late successional stages, to evaluate potential for lynx denning and foraging habitat.
2. Design burn prescriptions to regenerate or create snowshoe hare habitat (e.g., regeneration of aspen and lodgepole pine).

Project planning - guidelines

1. Design burn prescriptions to promote response by shrub and tree species that are favored by snowshoe hare.
2. Design burn prescriptions to retain or encourage tree species composition and structure that will provide habitat for red squirrels or other alternate prey species.

3. Consider the need for pre-treatment of fuels before conducting management ignitions.
4. Avoid constructing permanent firebreaks on ridges or saddles in lynx habitat.
5. Minimize construction of temporary roads and machine fire lines to the extent possible during fire suppression activities.
6. Design burn prescriptions and, where feasible, conduct fire suppression actions in a manner that maintains adequate lynx denning habitat (10% of lynx habitat per LAU).

Recreation Management

Lynx have evolved a competitive advantage in environments with deep soft snow that tends to exclude other predators during the middle of winter, a time when prey is most limiting (Murray and Boutin 1991, Livaitis 1992, Buskirk et al. 1999). Widespread human activity (snowshoeing, cross-country skiing, snowmobiling, snow cats) may lead to patterns of snow compaction that make it possible for competing predators such as coyotes and bobcats to occupy lynx habitat through the winter, reducing its value to and even possibly excluding lynx (Bider 1962, Ozoga and Harger 1966, Murray et al. 1995, O'Donoghue et al. 1998). In order to maintain a competitive advantage for lynx, it may be necessary to minimize or even preclude snow compacting activities in and around quality snowshoe hare habitat. To not do so may lead to the elimination of lynx, or preclude the ability to re-establish them, in these landscapes.

A consideration for lynx in winter landscapes is exploitation or interference competition from other predator/competitors (Buskirk et al. 1999) and human disturbance (e.g., large developed recreational sites or areas of concentrated winter recreational use). Lynx may be able to adapt to the presence of regular and concentrated recreational use, so long as critical habitat needs are being met. Therefore it is essential that an interconnected network of foraging habitat be maintained that is not subjected to widespread human intervention or competition from other predator species.

In areas of concentrated recreational use (e.g., large ski areas), it may be necessary to maintain or provide "diurnal security habitat". In landscapes where there is widespread or intense recreational use, the natural diurnal patterns of human and lynx activity may provide the opportunity to maintain both uses in the landscape. Most human activity occurs during daylight hours, while lynx appear to be most active dusk to dawn, although weather may affect the time period when lynx are most active (Apps 1999). A key to providing temporal segregation of use may be in ensuring there are places in that landscape where lynx can bed during the day relatively undisturbed. Sites that are similar to denning habitat (i.e., areas that are tangled with large woody debris) will tend to exclude most human activity because of the inherent difficulty they pose for human movement. Di-

urnal security habitat should be sufficiently large to provide effective and visual insulation from human activity, and must be well distributed and in proximity to foraging habitat.

Where such diurnal security sites exist, they should be protected from actions or activities that would destroy or compromise their functional value. In landscapes where these areas are lacking or inadequate, it may be desirable to create them, focusing on location, adequate size, and an abundance of jackstrawed large woody debris.

Landscape connectivity may be provided by narrow forested mountain ridges, plateaus, or forest stringers that link more extensive areas of lynx habitat. Woodland riparian communities that provide travel cover across otherwise open areas may also provide connectivity.

Minimizing disturbance around denning habitat is important from May to August.

Programmatic planning - objectives

1. Plan for and manage recreational activities to protect the integrity of lynx habitat, considering as a minimum the following:
 - a) Minimize snow compaction in lynx habitat.
 - b) Concentrate recreational activities within existing developed areas, rather than developing new recreational areas in lynx habitat.
 - c) On federal lands, ensure that development or expansion of developed recreation sites or ski areas and adjacent lands address landscape connectivity and lynx habitat needs.

Programmatic planning - standards

1. On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU. This is intended to apply to dispersed recreation, rather than existing ski areas.
2. Map and monitor the location and intensity of snow compacting activities (for example, snowmobiling, snowshoeing, cross-country skiing, dog sledding, etc.) that coincide with lynx habitat, to facilitate future evaluation of effects on lynx as information becomes available.

Programmatic planning - guidelines

1. Provide a landscape with interconnected blocks of foraging habitat where snowmobile, cross-country skiing, snowshoeing, or other snow compacting activities are minimized or discouraged.
2. As information becomes available on the impact of snow-compacting activities and disturbance on lynx, limit or discourage this use in areas where it is shown to compromise lynx habitat. Such actions should be undertaken on a priority basis considering habitat function and importance.

Project planning - standards

Developed Recreation:

1. In lynx habitat, ensure that federal actions do not degrade or compromise landscape connectivity when planning and operating new or expanded recreation developments.
2. Design trails, roads, and lift termini to direct winter use away from diurnal security habitat.

Dispersed Recreation:

1. To protect the integrity of lynx habitat, evaluate (as new information becomes available) and amend as needed, winter recreational special use permits (outside of permitted ski areas) that promote snow compacting activities in lynx habitat.

Project planning - guidelines

Developed Recreation:

1. Identify and protect potential security habitats in and around proposed developments or expansions.
2. When designing ski area expansions, provide adequately sized coniferous inter-trail islands, including the retention of coarse woody material, to maintain snowshoe hare habitat.
3. Evaluate, and adjust as necessary, ski operations in expanded or newly developed areas to provide nocturnal foraging opportunities for lynx in a manner consistent with operational needs, especially in landscapes where lynx habitat occurs as narrow bands of coniferous forest across the mountain slopes.

Forest/Backcountry Roads and Trails

Forest and backcountry roads and trails are those that occur on public lands; highways are addressed separately. Refer also to the conservation measures in the Forest Management, Recreation, and Trapping sections.

Plowed roads and groomed over-the-snow routes may allow competing carnivores such as coyotes and mountain lions to access lynx habitat in the winter, increasing competition for prey (Buskirk et al. 1999). However, plowed or created snow roads may be necessary to accomplish winter logging, which may be desirable to meet a variety of resource management objectives.

Preliminary information suggests that lynx may not avoid roads, except at high traffic volumes. Therefore, at this time, there is no compelling evidence to recommend management of road density to conserve lynx. However, new road construction continues to occur in many watersheds within lynx habitat, many of which are already highly roaded, and the effects on lynx are largely unknown. Further research directed at elucidating the effects of road density on lynx is needed.

Programmatic planning - objectives

1. Maintain the natural competitive advantage of lynx in deep snow conditions.

Programmatic planning - standards

1. On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU. Winter logging activity is not subject to this restriction.

Programmatic planning - guidelines.

1. Determine where high total road densities (>2 miles per square mile) coincide with lynx habitat, and prioritize roads for seasonal restrictions or reclamation in those areas.
2. Minimize roadside brushing in order to provide snowshoe hare habitat.
3. Locate trails and roads away from forested stringers.
4. Limit public use on temporary roads constructed for timber sales. Design new roads, especially the entrance, for effective closure upon completion of sale activities.
5. Minimize building of roads directly on ridgetops or areas identified as important for lynx habitat connectivity.

Livestock Grazing

In riparian areas within lynx habitat, ungulate forage use levels may reduce forage resources available to snowshoe hares. Browsing or grazing can have a direct effect on snowshoe hare habitat if it alters the structure or composition of native plant communities.

Throughout the Rocky Mountains, grazing has been a factor in the decline or loss of aspen as a seral species in subalpine forests. Young, densely regenerating aspen stands with a well-developed understory provide good quality habitat for snowshoe hares and other potential lynx prey species, such as grouse. Grazing should be managed to allow for regeneration of aspen clones.

Particularly in the naturally fragmented habitats of the western United States, inclusions of high elevation shrub-steppe habitats often may exist within the home range of a lynx. Resident lynx are also known to occasionally make exploratory movements out of their home ranges (Squires and Laurion 1999, Aubry et al. 1999), encountering these habitats and potential alternate prey such as ground squirrels and jackrabbits. Therefore, shrub-steppe habitats within the elevational ranges of forested lynx habitat should be considered lynx habitat and be managed to maintain or achieve mid-seral or higher conditions, thereby providing maximum natural cover and prey availability. Those areas that are currently in late seral condition should not be degraded.

Programmatic planning - objectives

1. In lynx habitat and adjacent shrub-steppe habitats, manage grazing to maintain the composition and structure of native plant communities.

Project planning - objectives

1. Manage livestock grazing within riparian areas and willow carrs in lynx habitat to provide conditions for lynx and lynx prey.
2. Maintain or move towards native composition and structure of herbaceous and shrub plant communities.
3. Ensure that ungulate grazing does not impede the development of snowshoe hare habitat in natural or created openings within lynx habitat.

Project planning - standards

1. Do not allow livestock use in openings created by fire or timber harvest that would delay successful regeneration of the shrub and tree components. Delay livestock use in post-fire and post-harvest created openings until successful regeneration of the shrub and tree components occurs.
2. Manage grazing in aspen stands to ensure sprouting and sprout survival sufficient to perpetuate the long-term viability of the clones.
3. Within the elevational ranges that encompass forested lynx habitat, shrub-steppe habitats should be considered as integral to the lynx habitat matrix and should be managed to maintain or achieve mid seral or higher condition.
4. Within lynx habitat, manage livestock grazing in riparian areas and willow carrs to maintain or achieve mid seral or higher condition to provide cover and forage for prey species.

Other Human Developments: Oil & Gas Leasing, Mines, Reservoirs, Agriculture

Most of these activities affect lynx habitat by changing or eliminating native vegetation, and may also contribute to fragmentation. The primary effects of leases and mines on lynx are probably related to the potential for plowed roads to provide access for lynx competitors, particularly coyotes. Construction of reservoirs will be handled under normal FERC and consultation procedures, and no conservation measures were developed specific to those projects.

Programmatic planning - objectives

1. Design developments to minimize impacts on lynx habitat.

Programmatic planning - guidelines

1. Map oil and gas production and transmission facilities, mining activities and facilities, dams, and agricultural lands on public lands and adjacent private lands, in order to assess cumulative effects.

Project planning - standards

1. On projects where over-snow access is required, restrict use to designated routes.

Project planning - guidelines

1. If activities are proposed in lynx habitat, develop stipulations for limitations on the timing of activities and surface use and occupancy at the leasing stage.
2. Minimize snow compaction when authorizing and monitoring developments. Encourage remote monitoring of sites that are located in lynx habitat, so that they do not have to be visited daily.
3. Develop a reclamation plan (e.g., road reclamation and vegetation rehabilitation) for abandoned well sites and closed mines to restore suitable habitat for lynx.
4. Close newly constructed roads (built to access mines or leases) in lynx habitat to public access during project activities. Upon project completion, reclaim or obliterate these roads.

CONSERVATION MEASURES TO ADDRESS MORTALITY RISK FACTORS

Trapping (legal and non-target)

Lynx are known to be very vulnerable to trapping. Ward and Krebs (1985) stated that trapping was the single most important mortality factor in their Yukon study area. Incidental trapping of lynx can occur in areas where regulated trapping of other species overlaps with lynx habitat (Mech 1973, Carbyn and Patriquin 1983, Squires and Laurion 1999). Lynx may be more vulnerable to trapping near open roads (Koehler and Aubry 1994, Bailey et al. 1986).

The U.S. Fish and Wildlife Service (FWS) is proposing to work with the States to develop a 4-d. rule for all regulated or unregulated trapping (e.g., coyote, wolverine, bobcat, fox) in lynx habitats by establishing adequate trapping protocols to minimize incidental take. Each state would work with FWS to customize the protocol for their specific regions.

Programmatic planning - objectives

1. Reduce incidental harm or capture of lynx during regulated and unregulated trapping activity, and ensure retention of an adequate prey base.

Programmatic planning - guidelines

1. Federal agencies should work cooperatively with States and Tribes to reduce incidental take of lynx related to trapping.

Predator Control

Predator control activities conducted on federal lands by Wildlife Services include trapping, shooting, and poisoning animals on domestic livestock allotments, occasionally within lynx habitat. Similar efforts may be conducted on adjacent private lands. Although such actions are intended to target the offending animal, non-target animals including lynx may be impacted.

Programmatic planning - objectives

1. Reduce incidental harm or capture of lynx during predator control activities, and ensure retention of adequate prey base.

Programmatic planning - standards

1. Predator control activities, including trapping or poisoning on domestic livestock allotments on federal lands within lynx habitat, will be conducted by Wildlife Services personnel in accordance with FWS recommendations established through a formal Section 7 consultation process.

Shooting

Lynx may be mistakenly shot by legal predator hunters seeking bobcats, or illegally by poachers. Prey species, such as snowshoe hares and ground squirrels, may also be affected by legal shooting.

Programmatic planning - objectives

1. Reduce lynx mortalities related to mistaken identification or illegal shooting.

Programmatic planning - guidelines

1. Initiate interagency information and education efforts throughout the range of lynx in the contiguous states. Utilize trailhead posters, magazine articles, news releases, state hunting and trapping regulation booklets, etc., to inform the public of the possible presence of lynx, field identification, and their status.
2. Federal agencies should work cooperatively with States and Tribes to ensure that important lynx prey are conserved.

Competition and Predation as Influenced by Human Activities

Habitat changes that benefit competitor/ predator species, including some vegetation management practices and providing packed snow travel ways, may lead to increased starvation or direct mortality of lynx. Refer also to applicable conservation measures in the Forest Management, Recreation, and Forest/ Backcountry Roads and Trails sections.

Programmatic planning - objectives

1. Maintain the natural competitive advantage of lynx in deep snow conditions.

Programmatic planning - standards

1. On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU. This is intended to apply to dispersed recreation, rather than existing ski areas.

Highways

Direct mortality from vehicular collisions may be detrimental to lynx populations in the lower 48 states. Mortality levels can drastically increase with relatively small increases in traffic volumes and speed.

Programmatic planning - objectives

1. Reduce the potential for lynx mortality related to highways.

Programmatic planning - standards

1. Within lynx habitat, identify key linkage areas and potential highway crossing areas.

Programmatic planning - guidelines

1. Where needed, develop measures such as wildlife fencing and associated underpasses or overpasses to reduce mortality risk.

CONSERVATION MEASURES TO ADDRESS MOVEMENT AND DISPERSAL

It is essential to provide landscape connectivity so that all or most habitat has the potential of being occupied, and populations remain connected.

At the southern periphery and eastern portions of lynx range, habitat occurs in narrow fragmented bands (man-made or naturally-occurring), or has been fragmented by human developments. Connected forested habitats allow lynx, and other large and medium size carnivores, to easily move long distances in search of food, cover and mates. Highways and private lands that are subdivided for commercial or residential developments or have high human use patterns, can interrupt existing habitat connectivity and further fragment lynx habitat, reducing the potential for population interchange. In some areas, particularly the eastern United States, habitat connectivity may be difficult to achieve because of mixed ownerships. Land exchanges and cooperative management with private landowners may be the only options available to provide landscape connectivity.

Shrub-steppe habitats provide connectivity between mountain ranges and other blocks of primary forested lynx habitat. Where blocks of lynx habitat are separated by intervening basins, valleys, or high mesas of shrub-steppe, land managers should evaluate those shrub-steppe expanses for potential to provide landscape connectivity. Vegetative or geomorphic features within shrub-steppe habitats that may be particularly important are riparian systems and relatively high ridge systems. Where such features exist, land management practices should be consistent with maintaining landscape connectivity. Livestock grazing within shrub-steppe habitats in such areas should be managed to maintain or achieve mid seral or higher condition, to maximize cover and prey availability. Such areas that are currently in late seral condition should not be degraded.

Programmatic planning - objectives

1. Maintain and, where necessary and feasible, restore habitat connectivity across forested landscapes.

Programmatic planning - standards

1. Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownerships.
2. Develop and implement a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project.
3. Evaluate the potential importance of shrub-steppe habitats in providing landscape connectivity between blocks of primary lynx habitat. Livestock grazing within shrub-steppe habitats in such areas should be managed to maintain or achieve mid seral or higher condition, to maximize cover and prey availability. Such areas that are currently in late seral condition should not be degraded.

Programmatic planning - guidelines

1. Where feasible, maintain or enhance native plant communities and patterns, and habitat for potential lynx prey, within identified key linkage areas. Pursue opportunities for cooperative management with other landowners.

Highways

Highways impact lynx and other carnivores by fragmenting habitat and impeding movements. As traffic lanes, volume, speeds, and right-of-way width increase, the effects on lynx and other carnivores are magnified. As human demographics change, highways tend to increase in size and traffic density. Special concern must be given to the development of new highways (gravel roads being paved), and changes in highway design, such as additions in the number of traffic lanes, widening of rights-of-way, or other modifications to increase highway capacity or speed.

Within key linkage areas, highway crossing structures should be employed to reduce effects on wildlife. Information from Canada (Trans-Canada Highway) suggests crossings should generally be at 1/2-mile intervals and not farther than 1 mile apart, depending on topographic and vegetation features.

Programmatic planning - objectives

1. Ensure that connectivity is maintained across highway rights-of-way.

Programmatic planning - standards

1. Federal land management agencies will work cooperatively with the Federal Highway Administration and State Departments of Transportation to address the following within lynx geographic areas:
 - a) Identify land corridors necessary to maintain connectivity of lynx habitat.
 - b) Map the location of “key linkage areas” where highway crossings may be needed to provide habitat connectivity and reduce mortality of lynx (and other wildlife).

Programmatic planning - guidelines

1. Evaluate whether land ownership and management practices are compatible with maintaining lynx highway crossings in key linkage areas. On public lands, management practices will be compatible with providing habitat connectivity. On private lands, agencies will strive to work with landowners to develop conservation easements, exchanges, or other solutions.

Project planning - standards

1. Identify, map, and prioritize site-specific locations, using topographic and vegetation features, to determine where highway crossings are needed to reduce highway impacts on lynx.
2. Within the range of lynx, complete a biological assessment for all proposed highway projects on federal lands. A land management agency biologist will review and coordinate with highway departments on development of the biological assessment.

Project planning - guidelines

1. Dirt and gravel roads traversing lynx habitat (particularly those that could become highways) should not be paved or otherwise upgraded (e.g., straightening of curves, widening of roadway, etc.) in a manner that is likely to lead to significant increases in traffic volumes, traffic speeds, increased width of the cleared ROW, or would foreseeably contribute to development or increases in human activity in lynx habitat. Such projects may increase habitat fragmentation, create a barrier to movements, increase mortality risks due to vehicle collisions, and generate secondary adverse effects by inducing, facilitating, or exacerbating development and human activity in lynx habitat. Whenever rural dirt and gravel roads traversing lynx habitat are proposed for

such upgrades, a thorough analysis should be conducted on the potential direct and indirect effects to lynx and lynx habitat.

Land Ownership

Lynx exemplify the need for landscape-level ecosystem management. Contiguous tracts of land in public ownership (national forests, national parks, wildlife refuges, and BLM lands) provide an opportunity for management that can maintain lynx habitat connectivity. Throughout most of the lynx range in the lower 48 states, connectivity with habitats and populations in Canada is critical for maintaining populations in the U.S.

Programmatic planning - objectives

1. Retain lands in key linkage areas in public ownership.

Programmatic planning - standards

1. Identify key linkage areas by management jurisdiction(s) in management plans and prescriptions.

Programmatic planning - guidelines

1. In land adjustment programs, identify key linkage areas. Work towards unified management direction via habitat conservation plans, conservation easements or agreements, and land acquisition.

Project planning - standards

1. Develop and implement specific management prescriptions to protect/ enhance key linkage areas.
2. Evaluate proposed land exchanges, land sales, and special use permits for effects on key linkage areas.

Ski Areas/Large Resorts and Associated Activities

Ski areas and large resorts are often developed in and across bands of high elevation boreal forests containing lynx habitat. Landscape location, the high intensity of recreational and operational use, and associated development pose a risk to lynx movement and dispersal. Developments that may impede lynx movement occur in Utah and western Wyoming (Northern Rocky Mountains Geographic Area), Colorado (Southern Rocky Mountains Geographic Area), and possibly portions of the Northeast Geographic Area.

Programmatic planning - objectives

1. When conducting landscape level planning on Federal lands, allocate land uses such that landscape connectivity is maintained.

Programmatic planning - standards

1. Within identified key linkage areas, provide for landscape connectivity.

Project planning - standards

1. When planning new or expanding recreational developments, ensure that key linkage areas are protected.

Project planning - guidelines

1. Plan recreational development, and manage recreational and operational uses to provide for lynx movement and to maintain effectiveness of lynx habitat.

This information has been excerpted from the Canada Lynx Conservation Assessment and Strategy. The entire assessment and strategy, along with the amendment proposed for the Northern Rockies can found on the U.S. Fish and Wildlife Service website at: <http://www.fs.fed/r1/planning/lynx/reports/lcas.pdf>.

CONSERVATION ACTIONS FOR GRIZZLY BEARS

The following excerpts from the Yellowstone Conservation Strategy and Grizzly Bear Management Plan for Southwestern Montana are pertinent to grizzly bear management in the Dillon Field Office. These are the conservation measures that address the needs and risk factors for grizzly bear, and will be used to evaluate land management authorizations. The DFO is outside the Primary Conservation Area for grizzly, and only those actions specific to areas outside the PCA will be used.

Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area March 2003

Chapter 1 - Introduction and Background

The future management of the Yellowstone grizzly bear population is envisioned as one in which the grizzly and its habitat are conserved as integral parts of the Greater Yellowstone Area. Within the Greater Yellowstone Area (GYA), the grizzly bear population and its habitat will be managed utilizing a management approach that identifies a Primary Conservation Area (PCA) and adjacent areas where occupancy by grizzly bears is anticipated and acceptable. The PCA is the existing Yellowstone grizzly bear recovery zone as identified in the 1993 *Grizzly Bear Recovery Plan (Recovery Plan)* (USFWS 1993). The size of the recovery zone is not being expanded in this approach. Upon implementation of this Conservation Strategy, management using a recovery zone line and grizzly bear Management Situations described in the Interagency Grizzly Bear Guidelines (IGBC 1986) will no longer be necessary. The PCA boundary will replace the recovery zone boundary. In the Conservation Strategy, management direction is described for both the PCA and adjacent areas within the GYA. State grizzly bear management plans, forest plans, and other appropriate planning documents will provide specific management direction for the adjacent areas outside the PCA.

This Conservation Strategy was developed to be the document guiding management and monitoring of the Yellowstone grizzly bear population and its habitat upon recovery and delisting. This approach will remain in place beyond recovery and delisting. Ongoing review and evaluation of the effectiveness of this Conservation Strategy is the responsibility of the state and federal managers in the GYA. This Conservation Strategy will be updated by the management agencies every five years or as necessary, allowing public comment in the updating process. Upon implementation of the Conservation Strategy, the Yellowstone Grizzly Coordinating Committee (YGCC) will replace the Yellowstone Ecosystem Subcommittee.

The Conservation Strategy and the State Management Plans

The purpose of this Conservation Strategy (Strategy) and the state plans is to:

- Describe and summarize the coordinated efforts to manage the grizzly bear population and its habitat to ensure continued conservation in the GYA
- Specify the population, habitat, and nuisance bear standards to maintain a recovered grizzly bear population for the foreseeable future
- Document the regulatory mechanisms and legal authorities, policies, management, and monitoring programs that exist to maintain the recovered grizzly bear population
- Document the commitment of the participating agencies

Implementation of the management strategies requires continued cooperation between federal and state agencies.

The GYA is a dynamic environment; monitoring systems in the Strategy allow for dynamic management as environmental issues change. The agencies are committed to be responsive to the needs of the grizzly bear by dynamic management actions based on the results of detailed annual population and habitat monitoring.

The vision of the Strategy can be summarized as follows:

- The PCA will be a secure area for grizzly bears, with population and habitat conditions maintained to ensure a recovered population is maintained for the foreseeable future and to allow bears to continue to expand outside the PCA.
- Outside of the PCA, grizzly bears will be allowed to expand into biologically suitable and socially acceptable areas.
- Outside of the PCA, the objective is to maintain existing resource management and recreational uses and to allow agencies to respond to demonstrated problems with appropriate management actions.
- Outside of the PCA, the key to successful management of grizzly bears lies in bears utilizing lands that are not managed solely for bears but in which their needs are considered along with other uses.
- Expand public information and education efforts.
- Provide quick responsive management to deal with grizzly bear conflicts.
- Manage grizzly bears as a game animal; including allowing regulated hunting when and where appropriate.

Relationship to Other Plans

By integrating state plans into the Strategy, it was ensured that the plans and the Strategy are consistent where necessary and complementary. The state plans are formally incorporated in the Conservation Strategy as Appendices K, L, and M. Relationships with national forest and national park plans are also mentioned throughout the Strategy. Land and resource management plans for some national forests, national parks, and the Bureau of Land Management (BLM) in the GYA have incorporated the habitat standards and other relevant provisions of the Conservation Strategy. For those standards and provisions not yet incorporated into management plans, the agencies will implement the habitat standards and monitoring requirements in this conservation strategy through their established planning processes, subject to NEPA or other legal requirements.

Chapter 2 - Population Standards and Monitoring

To maintain a healthy (recovered) grizzly bear population in the GYA, it is necessary to have adequate numbers of bears that are widely distributed with a balance between reproduction and mortality. This section details the population criteria in the *Recovery Plan* that were necessary to achieve recovery, and the population standards necessary to maintain it. *Recovery Plan* criteria focus on the PCA and a 10-mile perimeter, whereas standards in the Strategy and the parameters in appended state plans focus beyond the PCA and encompass the entire GYA. Because grizzly bears are a difficult species to monitor and manage, multiple standards with additional monitoring items are identified to provide sufficient information upon which to base management decisions. It is the goal of the agencies implementing this Conservation Strategy to manage the Yellowstone grizzly population in the entire GYA at or above a total of 500 grizzly bears.

Chapter 3 - Habitat Standards and Monitoring

The habitat standards identified in this document will be maintained at identified levels inside the PCA. In addition to the habitat standards, several other habitat factors will be monitored and evaluated to determine the overall condition of habitat for bears. It is the goal of the habitat management agencies to maintain or improve habitat conditions existing as of 1998, as measured within each subunit within the PCA, while maintaining options for management of resource activities at approximately the same level as existed in 1998. The habitat standards in this document are subject to revision based on the best available science and will be reviewed and updated as necessary.

Habitat standards include:

- Maintenance of secure habitat at 1998 levels in each BMU subunit through management of motorized access route building and density, with short-term deviations allowed under specific conditions. Secure habitat is defined as more than 500 meters from an open or gated motorized access route or reoccurring helicopter flight line and must be greater than or equal to 10 acres in size.

- The number of commercial livestock allotments and number of permitted domestic sheep will not exceed 1998 levels inside the PCA. Existing sheep allotments will be phased out as the opportunity arises with willing permittees.

- Management of developed sites at 1998 levels within each BMU subunit, with some exceptions for administrative and maintenance needs

Habitat criteria that will be monitored and reported include:

- Monitoring open and total motorized access route density in each BMU subunit inside the PCA
- Monitoring of four major food items throughout the Yellowstone area: winter ungulate carcasses, cut-throat trout spawning numbers, bear use of army cutworm moth sites, and whitebark pine cone production. The incidence of white pine blister rust in sampled areas will also be monitored.
- Monitoring of habitat effectiveness in the PCA using the databases from the Yellowstone Grizzly Bear Cumulative Effects Model
- Monitoring the number of elk hunters inside the PCA
- Monitoring the number of grizzly bear mortalities throughout the Yellowstone area on private lands and development of a protocol to monitor private land status and condition
- Land managers will ensure that habitat connectivity is addressed throughout the Yellowstone area as part of any new road construction or reconstruction

Chapter 4 - Management and Monitoring of Grizzly Bear/Human Conflicts

The management of grizzly bear/human conflicts inside the PCA is based upon the existing laws and authorities of the state wildlife agencies and federal land management agencies. Outside the PCA, state management plans will direct the management of nuisance bears. Management of nuisance bears usually falls into one or more of the following categories:

- Removing or securing the attractant
- Deterring the bear from the site through the use of aversive conditioning techniques
- Capturing and relocating the nuisance bear
- Removing the bear from the wild, including lethal control

The focus and intent of nuisance grizzly bear management inside and outside the PCA will be predicated on strategies and actions to prevent grizzly bear/human conflicts. It is recognized that active management aimed at individual nuisance bears will be required in both areas. Management actions outside the PCA will be implemented according to state management plans. These actions will be compatible with grizzly bear population management objectives for each state for the areas outside the PCA.

In circumstances that result in a nuisance bear situation outside the PCA, more consideration will be given to existing human uses. Site-specific conflict areas within and outside the PCA will be documented and prioritized to focus proactive management actions to minimize grizzly bear/human conflicts and address existing and potential human activities that may cause future conflicts. Past conflict management has demonstrated that grizzly bears can coexist with most human activities. Management of all nuisance bear situations will emphasize resolving the human cause of the conflict. Relocation and removal of grizzly bears may occur if other management actions are not successful.

Before any removal, except in cases of human safety, management authorities will consult with each other prior to judging the adequacy of the reason for removal. Captured grizzly bears identified for removal may be given to public research institutions or public zoological parks for appropriate non-release educational or scientific purposes as per regulations of states and national parks. Grizzly bears not suitable for release, research, or educational purposes will be removed as described in appropriate state management plans or in compliance with national park management plans. All grizzly bear relocations and removals will be documented and reported annually in the IGBST (Interagency Grizzly Bear Study Team) Annual Report.

Chapter 5 - Information and Education

The purposes of the information and education aspects of this cooperative effort are to support the development, implementation, and dissemination of a coordinated information and education program. This program should be understandable and useful for the people who visit, live, work, and recreate in bear habitat to minimize grizzly bear/human conflicts and to provide for the safety of people while building support for viable bear populations. Information made available to the public will be open and responsive to public concerns. Open discussions with the public will increase credibility of the grizzly bear management program. These efforts will be reviewed periodically and program adjustments will be made as

necessary. In addition, efforts will be expanded as the bear population expands and additional efforts are needed in areas that could become occupied in the near future.

The current information and education (I & E) working group within the Greater Yellowstone Area will continue. Members of this I & E team include public affairs personnel from Forest Service Regions 1, 2, and 4; Grand Teton and Yellowstone National Parks; the BLM; representatives from each state wildlife agency; and the information and education specialist from the IGBC. This team will continue to work with all affected interests to ensure consistency of information, efficient funding strategies, identifying and targeting audiences, developing partnerships, and identifying new tools for implementation.

Grizzly Bear Management Plan for Southwestern Montana 2002-2012

Specific Habitat Management and Guidelines

FWP will seek to maintain road densities of one mile or less per square mile of habitat as the preferred approach. This is the goal of the statewide elk management plan (including the southwestern Montana areas covered by this plan). The goal seeks to meet the needs of a variety of wildlife while maintaining reasonable public access. If additional management is needed based on knowledge gained as bears reoccupy areas, it should be developed and implemented by local groups as suggested in this plan.

The following general management guidelines are applicable coordination measures. They should be considered when evaluating the effects of existing and proposed human activities in identified seasonally important habitats for a variety of wildlife species including grizzlies on federal and State lands.

1. Identify and evaluate, for each project proposal, the cumulative effects of all activities, including existing uses and other planned projects. Potential site-specific effects of the project being analyzed are a part of the cumulative effects evaluation which will apply to all lands within a designated "biological unit". A biological unit is an area of land which is ecologically similar and includes all of the year-long habitat requirements for a sub-population of one or more selected wildlife species.
2. Avoid human activities, or combinations of activities, on seasonally important wildlife habitats that may result in an adverse impact on the species or reduce long-term habitat effectiveness.
3. Base road construction proposals on a completed transportation plan which considers important wildlife habitat components and seasonal use areas in relation to road location, construction period, road standards, seasons of heavy vehicle use, road management requirements, and more.
4. Use minimum road and site construction specifications based on projected transportation needs. Schedule construction times to avoid seasonal-use periods for wildlife as designated in species-specific guidelines.
5. Locate roads, drill sites, landing zones, etc., to avoid important wildlife habitat components based on site-specific evaluation.
6. Roads that are not compatible with area management objectives, and are no longer needed for the purpose for which they were built, will be closed and reclaimed. Native plant species will be used whenever possible to provide proper watershed protection on disturbed areas. Wildlife forage and/or cover species will be used in rehabilitation projects where appropriate.
7. Impose seasonal closures and/or vehicle restrictions based on wildlife, or other resource needs, on roads that remain open and enforce and prosecute illegal use by off-road vehicles if given authority. FWP will actively work to secure authority through the appropriate process and identify funding to support enforcement efforts.
8. FWP supports the U.S. Forest Service and BLM restrictions banning all off-road/trail use.
9. Efforts will be directed towards improving the quality of habitat in site-specific areas of habitually high human-caused bear mortality. Increased sanitation measures, seasonal road closures, etc., could be applied.

MIGRATORY BIRD CONSERVATION

The BLM Dillon Field Office will use the following considerations, conservation strategies and priority species lists to implement migratory bird conservation in southwestern Montana. Management actions should focus on providing a variety of habitat characteristics that support successful breeding by migratory birds. This generally requires providing properly functioning habitats with the appropriate vegetation diversity, density and structure based on site potential to support nesting, security and foraging. Vegetation modification actions that reduce the capability of habitats to support these needs, such as prescribed fire, timber harvest, and livestock grazing, need to be evaluated for potential adverse impacts, particularly if they occur during the spring or early summer. The timing and intensity of these actions, as well as the type of habitat and bird species present, may substantially influence the level of impact to migratory birds. Such impacts have been considered to represent “take” under FWS regulations and have management implications. BLM’s goal is to implement management during project level activities that does not adversely affect migratory bird populations.

BLM MIGRATORY BIRD CONSERVATION STRATEGY

Non-game migratory birds are the primary species of concern under migratory bird conservation. Whereas waterfowl and migratory game birds are cooperatively managed by individual states and the USFWS with flyway-specific population and habitat goals and objectives, there has been less emphasis on developing and implementing management strategies to protect populations and habitat for other migratory birds, particularly neotropical migrants. These are species of songbirds, shorebirds and raptors that typically breed in North America but winter in Latin America. Because of these long-range migrations, it is important that quality habitats are adequately distributed along their migration routes to successfully reach their breeding and nesting grounds. It is also essential to provide sufficient quantities of suitable breeding habitat to maintain viable populations.

BLM’s Nongame Migratory Bird Habitat Conservation Plan (1992) provides the foundation for proactive habitat management on behalf of nongame birds that migrate to the tropics or use neotropical habitats. The overall intent is to reverse the decline in some bird populations and to implement this proactive program for other migratory species. The plan addresses goals for Inventory and Monitoring, Habitat Management, Research and Studies, Training, Education, Outreach and Communication, Domestic Partnerships, and International Partnerships. Habitat management

goals, management opportunities and recommended strategies from the plan include:

Goal

Restore, maintain, and enhance populations of nongame bird species through habitat management.

Recommended strategies

1. Prioritize breeding and migratory habitat for all nongame bird species so that management focus is on habitats of highest importance.
 - a. Prioritize the importance of each habitat type based upon bird use and total acreage present. This requires that each State possess a habitat and species inventory that will allow such ranking. The detail and resolution of the detail of the inventories will vary among States depending on what data is available. Coordination within the BLM and with its partners will be important in this process. A given habitat type may be rare on public land in one State, yet common in an adjacent state or on a nearby area. Thus specifying priorities will require not only good resource data but also good communication with other partners.
 - b. Complete a “gap analysis” to determine areas having high nongame bird habitat values that need increased management emphasis... The resolution of this analysis may be at different levels depending on the resource and management objectives, and executed at the level of the continent when identifying stopover habitats for long-distance migrants. The analysis may also be employed at the resource area level to identify needed breeding habitat ensuring a minimum, viable population of a particular species.
2. Consolidate areas under BLM administration with high nongame bird habitat values or potential.
 - a. When inventory and monitoring efforts have identified habitat with high bird values, attempt to combine such land as identified in Resource Management Plans via exchange or other suitable means. If voluntary exchange and/or acquisition is not possible, use easements Memoranda of Understanding or other methods to consolidate habitats into units of greater ecological value. This is especially important where such actions could provide landscape linkages supplying a bridge between large blocks already under management for nongame birds.
3. Restore degraded habitats to a condition consistent with nongame bird habitat objectives, emphasizing maintenance and enhancement of natural biological diversity.
 - a. Promote viable nongame bird populations and natural biological diversity by implementing and/or continuing habitat restoration programs such as improved livestock management, prescribed burn-

ing, clearing of exotic vegetation, tree and shrub planting, seeding, fencing and erosion control structures.

- b. Develop and implement management practices for riparian wetland and other areas that take into consideration impacts on nongame bird habitats. It is important for biologists and managers to pay close attention to how various management actions affect these species and their habitats. Research and experience will contribute to the future definition of “best management practices” for those species and their habitats.
4. Incorporate nongame bird management goals in resource Management Plans and activity plans as they are developed or amended.
 - a. Demonstrate that the BLM is a major player in species recovery by taking a prominent role in implementing specific recovery plans for Federally listed nongame birds that occur on public lands.
 - b. Develop and implement HMPs for all Federally listed and candidate species of nongame birds that are not covered by recovery plans.
5. Use the National Environmental Policy Act (NEPA) process to identify possible mitigation measures to avoid adverse impacts on nongame bird species and habitats.
 - a. Continue to apply the NEPA process in all management plans and decisions as a standard operating procedure. In many cases, several species will be involved and each species may have rather different behavior and biological requirements.

OTHER CONSERVATION PLAN OBJECTIVES

In addition to the Migratory Bird Conservation Plan, several other national strategy plans for bird conservation were developed in the 1990's for shorebirds, raptors, and waterfowl. The North American Wetland Conservation Act (NAWCA) provides the primary funding source for Joint Venture projects that can now be implemented for all bird species and their habitats, based on national priorities. The objectives for all of these plans are similar:

- 1) Determine population status and trends and identify their habitats on the public lands,
- 2) Restore, maintain and enhance populations through habitat management,
- 3) Conduct research and studies to obtain knowledge needed for informed decision-making for on-the-ground management of the importance of birds and their value to our natural heritage.
- 4) Develop a broad awareness and understanding of the importance of birds and their value to our natural heritage,

- 5) Build on existing relationships and create new partnerships to foster conservation programs, and
- 6) Establish international relationships to enhance hemispheric conservation programs for migratory species.

PRIORITY SPECIES OF CONCERN

Many of the high priority bird species identified in bird conservation plans are not currently included on BLM special status species lists. It is the intent of BLM to work with the bird conservation initiatives and the Partners in Flight prioritization process to identify where special status species recognition is warranted (see BLM Manual Supplement 6840). BLM sensitive species lists are reviewed periodically at the state level and should ensure coordination with the USFWS and Partners in Flight priority bird lists.

USFWS provides a list of Birds of Conservation Concern for specific geographic areas. The Dillon Field Office is included in the Northern Rockies Bird Conservation Region (BCR10) which recognizes the following priority species:

Swainson's hawk	Sanderling
Ferruginous hawk	Wilson's phalarope
Golden eagle	Yellow-billed cuckoo
Peregrine falcon	Flammulated owl
Prairie falcon	Black swift
Yellow rail	Lewis' woodpecker
American golden-plover	Williamson's sapsucker
Snowy plover	Red-naped sapsucker
Mountain plover	White-headed woodpecker
Solitary sandpiper	Loggerhead shrike
Upland sandpiper	Pygmy nuthatch
Whimbrel	Virginia's warbler
Long-billed curlew	Brewer's sparrow
Marbled godwit	McCown's longspur

Partners in Flight lists are developed nationally, regionally and by individual states through specific plans. The Montana Bird Conservation Plan identifies numerous priority species for grassland, shrubland, forest, riparian and wetland habitats with reasons for concern, management issues and recommendations, and population and habitat objectives. The following are considered as Priority 1 species in the MBC plan:

Common loon	Flammulated owl
Trumpeter swan	Burrowing owl
Harlequin duck	Black-backer woodpecker
Sage grouse	Olive-sided flycatcher
Piping plover	Brown creeper
Mountain plover	Sprague's pipit
Interior least tern	Baird's sparrow

Short Form Biological Evaluation for Special Status Fish and Wildlife Species

Project:

Step 1a. List of all Special Status Species that are known or suspected to occur on the DFO*	Step 1b. Current Management Status of the Species.	Step 1c. Does the species occur on this portion of the Field Office?	Step 2 Is the species or its habitat found in the greater Affected Area?	Step 3. Could this proposal have any effect?	Step 4. Are Irreversible or Irretrievable Resources involved?	Step 5. Alt 1 level of effect	Step 5. Alt 2 level of effect	Step 5. Alt 3 level of effect	Step 5. Alt 4 level of effect
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Threatened (MT); up for delisting								
Canada Lynx (<i>Lynx canadensis</i>)	Threatened								
Gray Wolf (<i>Canis lupus</i>)	Threatened, experimental								
Grizzly Bear (<i>Ursus arctos horribilus</i>)	Threatened (MT)								
Fluvial arctic grayling (<i>Thymallus arcticus</i>)	Candidate								
Fisher (<i>Martes pennanti</i>)	Sensitive								
North American Wolverine (<i>Gulo gulo luscus</i>)	Sensitive								
Northern Bog Lemming (<i>Synaptomys borealis</i>)	Sensitive								
Preble's Shrew (<i>Sorex preblei</i>)	Sensitive								
Pygmy Rabbit (<i>Brachylagus idahoensis</i>)	Sensitive								
Townsend's Big-eared Bat (<i>Plecotus townsendii</i>)	Sensitive								

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Step 1a. List of all Special Status Species that are known or suspected to occur on the DFO	Step 1b. Current Management Status of the Species.	Step 1c. Does the species occur on this portion of the Field Office?	Step 2 Is the species or its habitat found in the greater Affected Area?	Step 3. Could this proposal have any effect?	Step 4. Are Irreversible or Irretrievable Resources involved?	Step 5. Alt 1 level of effect	Step 5. Alt 2 level of effect	Step 5. Alt 3 level of effect	Step 5. Alt 4 level of effect
Baird's Sparrow (<i>Ammodramus bairdii</i>)	Sensitive								
Black-backed Woodpecker (<i>Picoides arcticus</i>)	Sensitive								
Black Tern (<i>Chlidonias niger</i>)	Sensitive								
Boreal Owl (<i>Aegolius funereus</i>)	Sensitive								
Burrowing Owl (<i>Athene cucularia</i>)	Sensitive								
Columbian Sharp-tailed Grouse (<i>Pedioecetes phasianellus</i>)	Sensitive								
Common Loon (<i>Gavia immer</i>)	Sensitive								
Canvasback duck (<i>Aythya valisneria</i>)	Sensitive								
Ferruginous Hawk (<i>Buteo regalis</i>)	Sensitive								
Flammulated Owl (<i>Otus flammeolus</i>)	Sensitive								
Great Gray Owl (<i>Strix nebulosa</i>)	Sensitive								
Hairy woodpecker (<i>Picoides villosus</i>)	Sensitive								
Harlequin Duck (<i>Histrionicus histrionicus</i>)	Sensitive								
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	Sensitive								

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Step 1a. List of all Special Status Species that are known or suspected to occur on the DFO	Step 1b. Current Management Status of the Species.	Step 1c. Does the species occur on this portion of the Field Office?	Step 2 Is the species or its habitat found in the greater Affected Area?	Step 3. Could this proposal have any effect?	Step 4. Are Irreversible or Irretrievable Resources involved?	Step 5. Alt 1 level of effect	Step 5. Alt 2 level of effect	Step 5. Alt 3 level of effect	Step 5. Alt 4 level of effect
Long-billed Curlew (<i>Numerius americanus</i>)	Sensitive								
Mountain Plover (<i>Charadrius montanus</i>)	Sensitive								
Northern Goshawk (<i>Accipiter gentilis</i>)	Sensitive								
Peregrine Falcon (<i>Falco peregrinus anatum</i>)	Sensitive (delisted)								
Pileated Woodpecker (<i>Dryocopus pileatus</i>)	Sensitive								
Sage Grouse (<i>Centrocercus urophasianus</i>)	Sensitive								
Sage Sparrow (<i>Amphispiza belli</i>)	Sensitive								
Swainson's Hawk (<i>Buteo swainsoni</i>)	Sensitive								
Three-toed Woodpecker (<i>Picoides tridactylus</i>)	Sensitive								
Trumpeter Swan (<i>Cygnus buccinator</i>)	Sensitive								
White-faced Ibis (<i>Plegadis chihi</i>)	Sensitive								
Spotted frog (<i>Rana pretiosa</i>)	Sensitive								
Westslope cutthroat trout (<i>Onchorhynchus clarkii lewisii</i>)	Sensitive								

*Use the list of Special Status Species Plants approved for Montana/Dakotas BLM to consider SSS-Plants.

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Step 6. Are there any specific recommendations to avoid significant effects (if any)? These are mitigation measures needed to avoid determinations of: LAA, LJ, WIFV. If so, state the location of the narrative describing these recommendations:

Step 7. Documentation: This short form is intended to follow a seven-step process to provide basic biological evaluations. Judgments must not be arbitrary but should be reasoned. This form provides a "road map" of that reasoning and assumes the judgments are drawn from numerous sources. Any species-specific impacts should be discussed in the NEPA document.

The signature below certifies that:

1. The wildlife biologist has reviewed the proposed action and its alternatives, but may or may not have provided input to alternative design, depending on the issues.
2. The wildlife biologist has an understanding of the specific conditions found in the affected area. Column 1a lists all possible Special Status Species in the Dillon Field Office. Column 1b identifies the species' current management status. Column 1c indicates whether there are no records (N/A), or whether the species is considered a Transient (T) or Resident (R) {for our purposes, resident includes migratory species that fulfill a portion of their life history here}. Step 2 is satisfied by field visits (or enough knowledge of local conditions from previous visits) resulting in enough information to determine if the area is potential habitat for species listed in Step 1. Extensive surveys are not necessary if the conservative approach is taken that: "suitable habitat" means the potential for occupancy.
3. The wildlife biologist has an understanding of the species habitat needs and other attributes important to the determination. This can be a combination of literature review, professional experience, and consultation with others.
4. The wildlife biologist has assimilated the above information in making the "determinations" (i.e. final judgments about the scientific significance of the effects).

Signed _____ Date _____

Printed name and title: _____

Short Form Biological Evaluation - Page 5 of 5 - Definitions of Abbreviations

N/A – “Not Applicable.” Indicates this species does not occur in the project area or that the project would have no bearing on its potential habitat. These species were removed from detailed analysis after field review of existing and potential habitats and consideration of distribution records.

FEDERALLY LISTED SPECIES

NE - No Effect

***LAA** - May Effect - Likely to Adversely Affect (formal consultation required)

NLAA - May Effect, Not Likely to Adversely Affect (informal consultation - concurrence with determination - required)

BE - Beneficial Effect (informal consultation - concurrence with determination - required)

SPECIES PROPOSED FOR LISTING

NE - No Effect

NLJ - Not likely to Jeopardize the continued existence of the species or result in the destruction or adverse modification of proposed critical habitat

***LJ** - Likely to Jeopardize the continued existence of the species or result in the destruction or adverse modification of proposed critical habitat

SENSITIVE SPECIES

NI - No Impact

MIH - May Impact Individuals or Habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

***WIFV** - Will Impact Individuals or habitat with a consequence that the action may contribute to the need for federal listing or cause a loss of viability to the population or species.

BI - Beneficial Impact

* triggers formal consultation process

revised 1/21/04